

CONSULTANTS



GENERAL NOTES:

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 - TP 312, 5th EDITION
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SEALS / STATUS



GIBBINGS CONSULTING LTD. PERMIT TO PRACTICE 1001372



RUNWAY 13-31, TAXIWAY A AND APRON I REHABILITATION

QUESNEL AIRPORT
QUESNEL, BC

MARK	DESCRIPTION	DATE	APP'D
2	ISSUED FOR TENDER	2022/01/13	RG
1	ISSUED FOR 100% REVIEW	2021/12/22	RG
0	ISSUED FOR 90% REVIEW	2021/10/27	RG

PROJECT NO : TRN.AIRP03390-02

CONTRACT NO : N/A

DRAFTING BY : KLL

DESIGN BY : RG

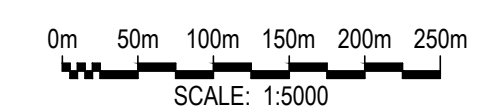
CHECKED BY : RG

ELECTRICAL SITE PLAN

SHEET ID

ESP1

50 mm



LIST OF CIRCUITS FOR THIS PROJECT	
CCT #	USAGE
1	RUNWAY, TAXIWAY + APRON EDGE LIGHTING
2	RUNWAY 13 ODALS POWER OR RUNWAY 13 MALS / MALSF / MALSRS STEADY BURN LIGHTS
2A	RUNWAY 13 MALS / MALSRS STROBE LIGHTS
3	RUNWAY 31 ODALS POWER OR RUNWAY 31 MALS / MALSF / MALSRS STEADY BURN LIGHTS
3A	RUNWAY 31 MALS / MALSRS STROBE LIGHTS
4	RUNWAY 13 PAPI + RUNWAY 31 PAPI

SIGN CONSTRUCTION NOTES:

- SUPPLY AND INSTALL NEW AIRFIELD SIGNS C/W SIGN, SIGN BASE, SIGN LEGS, FRANGIBLE COUPLINGS / MOUNTING FLANGES, PULLPIT, SECONDARY CONDUIT / CABLING, PRIMARY CONDUIT / CABLING, GROUND RODS / GROUNDING, ISOLATING TRANSFORMER, CONNECTOR KITS AND ALL OTHER ACCESSORIES AND WORK.
- CONNECT NEW SIGN TO EXISTING EDGE LIGHT CCT.

ILLUMINATED WINDSOCK CONSTRUCTION NOTES:

- SUPPLY AND INSTALL NEW LED WINDSOCK C/W MOUNTING ASSEMBLY, SECONDARY CONDUIT / CABLING, PRIMARY CONDUIT / CABLING, PULLPIT, GROUND RODS / GROUNDING, ISOLATING TRANSFORMER, CONNECTOR KITS AND ALL OTHER ACCESSORIES AND WORK.
- CONNECT NEW WINDSOCK TO EDGE LIGHT CCT.

TEMPORARY EDGE LIGHT RELOCATION NOTES:

- RELOCATE EXISTING EDGE LIGHTS TO TEMPORARY FIXTURE MOUNTING AS SHOWN IN DETAIL, TO ALLOW FOR RUNWAY NARROWING CIVIL WORKS TO TAKE PLACE.
- RUN TEMPORARY SECONDARY CABLING IN POLY TUBE, MARKED WITH MARKER TAPE / OTHER MARKINGS, ABOVE GRADE, TO TEMPORARY EDGE LIGHT LOCATIONS. HOLD POLY TUBE IN PLACE WITH SANDBAGS OR OTHER MEANS.
- REMOVE, RELOCATE AND MAINTAIN SECONDARY CABLING AND TEMPORARY LIGHTS TO FACILITATE CONSTRUCTION ACTIVITIES / PHASES.

ELECTRICAL REMOVALS:

- EXISTING EDGE LIGHT EQUIPMENT MADE OBSOLETE UNDER THIS PROJECT TO BE DISCONNECTED, REMOVED AND RETURNED TO OWNER (STORE AT LOCATION ON SITE AS DIRECTED BY OWNER / CONSULTANT).
- EXISTING PULLPIT LIDS (WITH HUB) MADE OBSOLETE UNDER THIS PROJECT TO BE REMOVED AND RETURNED TO OWNER (STORE AT LOCATION ON SITE AS DIRECTED BY OWNER / CONSULTANT).
- EXISTING BROKEN PULLPITS REPLACED UNDER THIS PROJECT TO BE REMOVED AND DISPOSED OF, OFF SITE.
- EXISTING PULLPITS MADE OBSOLETE UNDER THIS PROJECT TO BE REMOVED AND DISPOSED OF, OFF SITE. VOID TO BE BACKFILLED AND COMPACTED.
- EXISTING CABLES IN DUCT MADE OBSOLETE UNDER THIS PROJECT TO BE REMOVED AND DISPOSED OF, OFF SITE.
- EXISTING DIRECT BURIED CABLES MADE OBSOLETE UNDER THIS PROJECT TO BE ABANDONED IN PLACE. CABLE TO BE DISCONNECTED FROM SOURCE AND LOAD. ANY PORTIONS OF CABLE ABOVE GROUND TO BE CUT OFF AND DISPOSED OF, OFF SITE.
- EXISTING SIGN AND ODALS EQUIPMENT MADE OBSOLETE UNDER THIS PROJECT TO BE REMOVED AND RETURNED TO OWNER. DEMOLISH BASES TO 300mm (MINIMUM) BELOW GRADE AND BACKFILL / COMPACT VOIDS.

- RELOCATE RUNWAY EDGE LIGHT FIXTURE TO SUIT REDUCED RUNWAY WIDTH. INSTALL NEW PULLPIT LID ON EXISTING PULLPIT.
- RELOCATE EXISTING RUNWAY 13 PRECISION APPROACH PATH INDICATOR (PAPI) C/W ALL ACCESSORIES
- NEW ILLUMINATED WINDSOCK C/W ALL ACCESSORIES
- NEW RUNWAY 13 MEDIUM INTENSITY THRESHOLD / END LIGHTING C/W ALL ACCESSORIES
- NEW RUNWAY 13 APPROACH LIGHTING C/W ALL ACCESSORIES
 - OPTION #A: OMNI-DIRECTIONAL APPROACH LIGHTING SYSTEM (ODALS)
 - OPTION #B: MEDIUM INTENSITY APPROACH LIGHTING SYSTEM (MALS)
 - OPTION #C: MEDIUM INTENSITY APPROACH LIGHTING SYSTEM WITH SEQUENCED FLASHING LIGHTS (MALSF)
 - OPTION #D: MEDIUM INTENSITY APPROACH LIGHTING SYSTEM WITH RUNWAY ALIGNMENT INDICATOR LIGHTS (MALSRS)

- SUPPLY, INSTALL & CONNECT 1 - 2 NEW 7.5 kW CCRs (PROVISIONAL, DEPENDING ON APPROACH LIGHTING SYSTEM CHOSEN)
- NEW ILLUMINATED AIRFIELD SIGN C/W ALL ACCESSORIES (VARIOUS LOCATIONS)
- NEW RUNWAY GUARD LIGHTS (RGL'S) C/W ALL ACCESSORIES (PROVISIONAL)
- NEW ILLUMINATED WINDSOCK C/W ALL ACCESSORIES

- RELOCATE EXISTING RUNWAY 31 PRECISION APPROACH PATH INDICATOR (PAPI) C/W ALL ACCESSORIES
- NEW ILLUMINATED WINDSOCK C/W ALL ACCESSORIES
- NEW RETRO REFLECTOR EDGE MARKINGS ON PRIVATE TAXIWAY (PROVISIONAL)
- NEW RUNWAY HOLD SIGNS ON PRIVATE TAXIWAY (PROVISIONAL)
- NEW RUNWAY 31 MEDIUM INTENSITY THRESHOLD / END LIGHTING C/W ALL ACCESSORIES

- NEW RUNWAY 31 APPROACH LIGHTING C/W ALL ACCESSORIES
 - OPTION #A: OMNI-DIRECTIONAL APPROACH LIGHTING SYSTEM (ODALS)
 - OPTION #B: MEDIUM INTENSITY APPROACH LIGHTING SYSTEM (MALS)
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 - OPTION #D: MEDIUM INTENSITY APPROACH LIGHTING SYSTEM WITH RUNWAY ALIGNMENT INDICATOR LIGHTS (MALSRS)

ELECTRICAL EDGE LIGHT RELOCATION CONSTRUCTION NOTES:

- RELOCATE EXISTING EDGE LIGHT FIXTURES TO SUIT REDUCED RUNWAY WIDTH. INSTALL EDGE LIGHTS IN TEMPORARY LOCATIONS USING MOUNTING FLANGE (SEE DETAIL ON DRAWING EDE1), AND MAINTAIN / RELOCATE AS REQUIRED TO FACILITATE CONSTRUCTION ACTIVITIES.
- WHERE INDICATED, REPLACE EXISTING LENS ON EXISTING FIXTURE WITH NEW YELLOW / WHITE LENS (WHITE TO FACE APPROACH).
- ALL EDGE LIGHTING TO BE MOUNTED ON NEW RGS CONDUIT / STAKE UNLESS NOTED OTHERWISE.
- SUPPLY AND INSTALL NEW ISOLATING TRANSFORMERS, SECONDARY CONDUIT AND CABLING FROM EXISTING PULLPIT TO NEW FIXTURE LOCATION.
- EXISTING PULLPITS AND DUCT ALONGSIDE OF RUNWAY TO BE RE-USED.
- REMOVE EXISTING PULLPIT LID WITH MOUNTING HUB. RETURN TO OWNER. SUPPLY AND INSTALL NEW STEEL PULLPIT LID (WITHOUT HUB).

RUNWAY THRESHOLD / END LIGHT RELOCATION CONSTRUCTION NOTES:

- RELOCATE EXISTING THRESHOLD / END LIGHTS TO SUIT REDUCED RUNWAY WIDTH. INSTALL THRESHOLD / END LIGHTS IN TEMPORARY LOCATIONS USING MOUNTING FLANGE (SEE DETAIL ON DRAWING EDE1), AND MAINTAIN / RELOCATE AS REQUIRED TO FACILITATE CONSTRUCTION ACTIVITIES.
- ALL THRESHOLD / END LIGHTING TO BE MOUNTED ON NEW RGS CONDUIT / STAKE UNLESS NOTED OTHERWISE.
- SUPPLY AND INSTALL NEW ISOLATING TRANSFORMERS, SECONDARY CONDUIT AND CABLING FROM EXISTING PULLPIT TO NEW FIXTURE LOCATION.
- EXISTING PULLPITS AND DUCT ALONGSIDE OF RUNWAY TO BE RE-USED.

RUNWAY 13 AND RUNWAY 31 ODALS CONSTRUCTION NOTES:

- NEW PRIMARY CABLING TO BE INSTALLED IN NEW DUCTS IN NEW TRENCHES, FROM APPROACH UP TO THRESHOLD.
- MOUNT NEW ODALS TOWERS ON NEW BASES / SCREW ANCHORS.

RUNWAY 13 AND RUNWAY 31 MALS / MALSF / MALSRS CONSTRUCTION NOTES:

- SUPPLY AND INSTALL NEW PULLPITS, TRANSFORMERS, SECONDARY CORDS AND ALL REQUIRED ACCESSORIES.
- NEW PRIMARY CABLING / DUCT TO BE INSTALLED IN NEW TRENCH, FROM APPROACH UP TO THRESHOLD.
- MOUNT NEW MALS / MALSF / MALSRS TOWERS ON NEW BASES / SCREW ANCHORS.

PAPI CONSTRUCTION NOTES:

- PAPI OFFSETS TO BE REVISED FOR REDUCED RUNWAY WIDTH.
- INSTALL NEW SCREW ANCHOR BASES, AS REQUIRED. RE-USE EXISTING BASES, WHERE POSSIBLE.
- PAPI LOCATIONS ARE PRELIMINARY AND ARE TO BE CONFIRMED WITH CONSULTANT PRIOR TO CONSTRUCTION.
- SUPPLY AND INSTALL ONE NEW PULLPIT C/W LID AND TRANSFORMER(S) FOR EACH PAPI UNIT.
- AIM AND CALIBRATE PAPI UNITS PER MANUFACTURER'S INSTRUCTIONS AND TO MEET REQUIRED GUIDE SLOPE ANGLES.

RUNWAY GUARD LIGHT (RGL) CONSTRUCTION NOTES:

- SUPPLY AND INSTALL NEW LED RUNWAY GUARD LIGHTS C/W LIGHT, MOUNTING ASSEMBLY, SECONDARY CONDUIT / CABLING, PRIMARY CONDUIT / CABLING, PULLPIT, GROUND RODS / GROUNDING, ISOLATING TRANSFORMER, CONNECTOR KITS AND ALL OTHER ACCESSORIES AND WORK.
- CONNECT NEW RUNWAY GUARD LIGHTS TO EDGE LIGHT CCT.

PLOT DATE: 2022/01/13 AT 15:11:13 PLOTTED BY: KLL
CADD FILE: ESP1.DWG [ESP1]

ISSUED FOR TENDER

CONSULTANTS



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SEALS / STATUS



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**RUNWAY 13-31,
TAXIWAY A AND APRON I
REHABILITATION**

QUESNEL AIRPORT
QUESNEL, BC

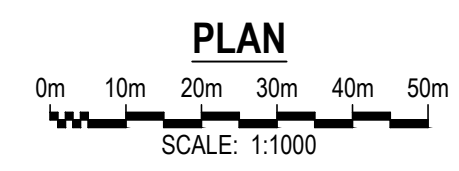
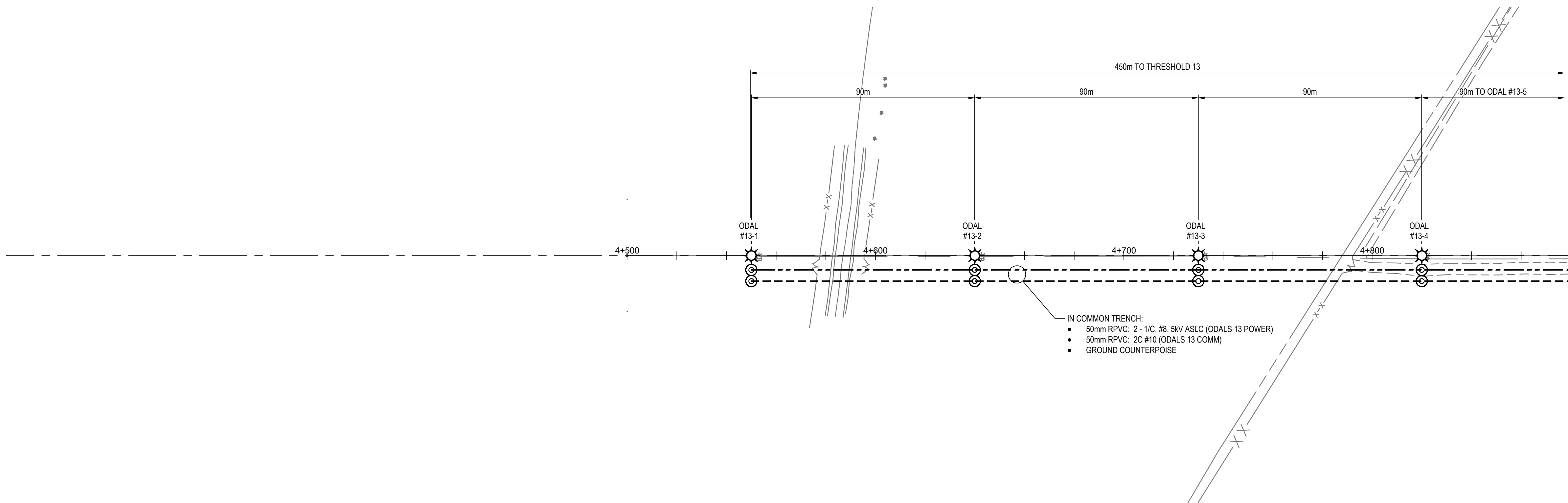
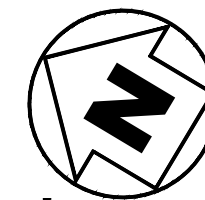
MARK	DESCRIPTION	DATE	APP'D
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1	ISSUED FOR 100% REVIEW	2021/12/22	RG
0	ISSUED FOR 90% REVIEW	2021/10/27	RG

PROJECT NO :	TRN.AIRP03390-02
CONTRACT NO :	N/A
DRAFTING BY :	KLL
DESIGN BY :	RG
CHECKED BY :	RG

**ELECTRICAL LAYOUT
SHEET 1 OF 5
OPTION #A: ODALS 13**

SHEET ID
ELA1A

50 mm

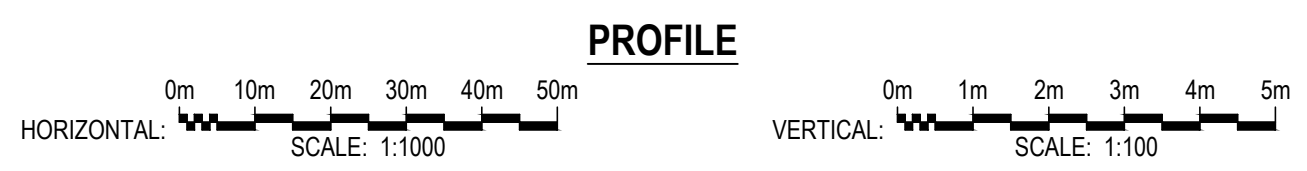
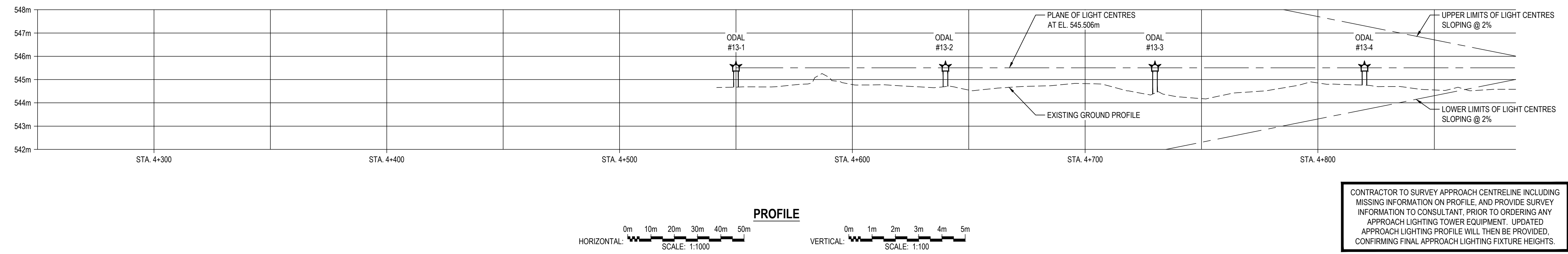


LEGEND	
	STAKE MOUNTED MEDIUM INTENSITY LED WHITE RUNWAY EDGE LIGHT
	STAKE MOUNTED MEDIUM INTENSITY LED WHITE / YELLOW RUNWAY EDGE LIGHT (WHITE TO FACE APPROACH)
	STAKE MOUNTED MEDIUM INTENSITY LED BLUE TAXIWAY EDGE LIGHT
	STAKE MOUNTED MEDIUM INTENSITY LED RED / GREEN RUNWAY END / THRESHOLD LIGHT (GREEN TO FACE APPROACH)
	STAKE MOUNTED MEDIUM INTENSITY LED GREEN RUNWAY THRESHOLD LIGHT
	OMNI-DIRECTIONAL APPROACH LIGHTING SYSTEM (ODALS)
	MEDIUM INTENSITY APPROACH LIGHTING SYSTEM STEADY BURN LIGHT (MALS / MALSF / MALSFR)
	MEDIUM INTENSITY APPROACH LIGHTING SYSTEM STEADY BURN LIGHT WITH SEQUENCED FLASHING LIGHTS (MALSFL)
	MEDIUM INTENSITY APPROACH LIGHTING SYSTEM STROBE LIGHT (MALSRL)
	PRECISION APPROACH PATH INDICATOR (PAPI)
	ILLUMINATED WINDSOCK
	RUNWAY GUARD LIGHT (RGL)
	RETRO REFLECTOR EDGE MARKING
	TAXIWAY HOLD SIGN
	RUNWAY EXIT SIGN
	APRON TURN-OFF SIGN
	MANDATORY FREQUENCY SIGN
	PULLPIT
	PULLPIT LID (INSTALLED ON EXISTING PULLPIT)
	POWER CABLE / CONDUIT AS NOTED
	COMM CABLE / CONDUIT AS NOTED

RUNWAY 13 ODALS INSTALLATION - OPTION #A						
ODALS NUMBER	STATION	CENTRELINE LENS ELEVATION (m)	HEIGHT ABOVE FINISHED GRADE (m)	GROUND ELEVATION (m)	MOUNTING SUPPORT	NOTES
THRESHOLD	5+000	-	-	545.156	-	-
13-1	4+550	545.506	0.831	544.675	CO-MOUNTED	-
13-2	4+640	545.506	0.806	544.7	CO-MOUNTED	-
13-3	4+730	545.506	1.084	544.422	TOWER MOUNTED	-
13-4	4+820	545.506	0.743	544.763	CO-MOUNTED	-
13-5	4+910	545.506	0.625	544.881	CO-MOUNTED	-
13-6A	4+970	545.506	0.702	544.804	CO-MOUNTED	OFFSET 12m FROM LEFT EDGE OF RUNWAY
13-6B						OFFSET 12m FROM RIGHT EDGE OF RUNWAY

NOTES:

- RUNWAY CROWN ELEVATION AT RUNWAY 13 THRESHOLD = 545.156m.
- UNITS LESS THAN 1.0m ABOVE GRADE TO BE CO-MOUNTED. UNITS MORE THAN 1.0m ABOVE GRADE TO BE TOWER MOUNTED.



CONTRACTOR TO SURVEY APPROACH CENTRELINE INCLUDING MISSING INFORMATION ON PROFILE, AND PROVIDE SURVEY INFORMATION TO CONSULTANT, PRIOR TO ORDERING ANY APPROACH LIGHTING TOWER EQUIPMENT. UPDATED APPROACH LIGHTING PROFILE WILL THEN BE PROVIDED, CONFIRMING FINAL APPROACH LIGHTING FIXTURE HEIGHTS.

PLOT DATE: 2022/01/13 AT 15:11:18 PLOTTED BY: KLL
CADD FILE: ELA1-ELA5.DWG [ELA1A]

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CONSULTANTS



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**RUNWAY 13-31,
TAXIWAY A AND APRON I
REHABILITATION**

QUESNEL AIRPORT
QUESNEL, BC

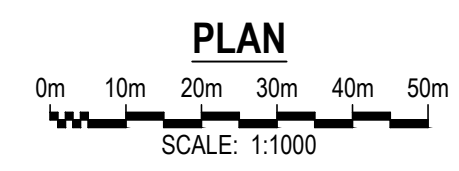
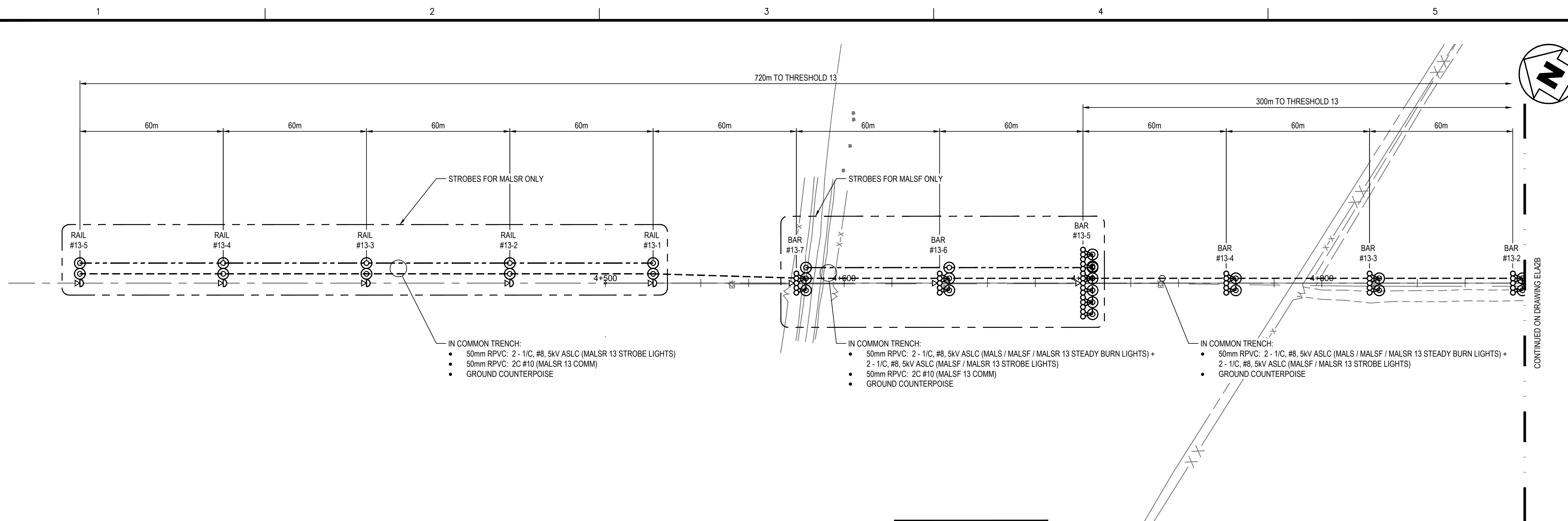
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PROJECT NO : TRN.AIRP03390-02
 CONTRACT NO : N/A
 DRAFTING BY : KLL
 DESIGN BY : RG
 CHECKED BY : RG

**ELECTRICAL LAYOUT
SHEET 1 OF 5
OPTION #B: MALS 13
OPTION #C: MALSF 13
OPTION #D: MALS SR 13**

SHEET ID
ELA1B

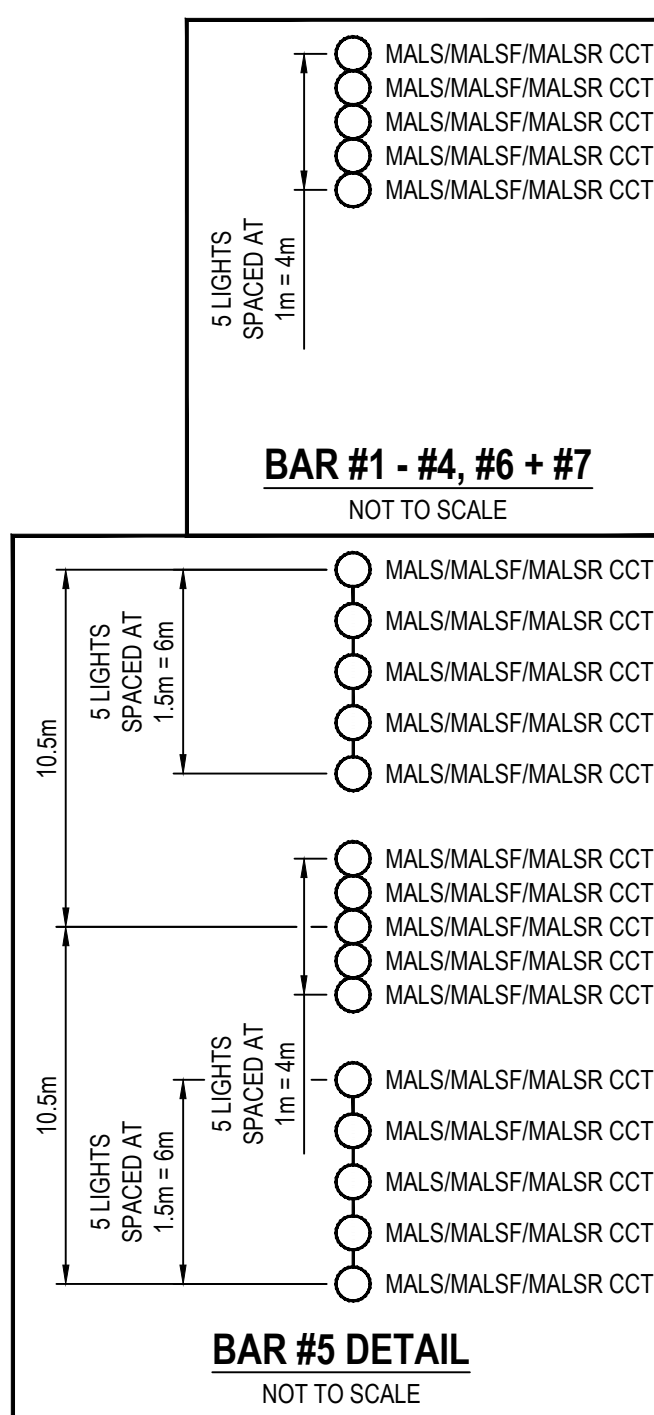
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**RUNWAY 13 MALS INSTALLATION - OPTION #B
 RUNWAY 13 MALSF INSTALLATION - OPTION #C
 RUNWAY 13 MALS SR INSTALLATION - OPTION #D**

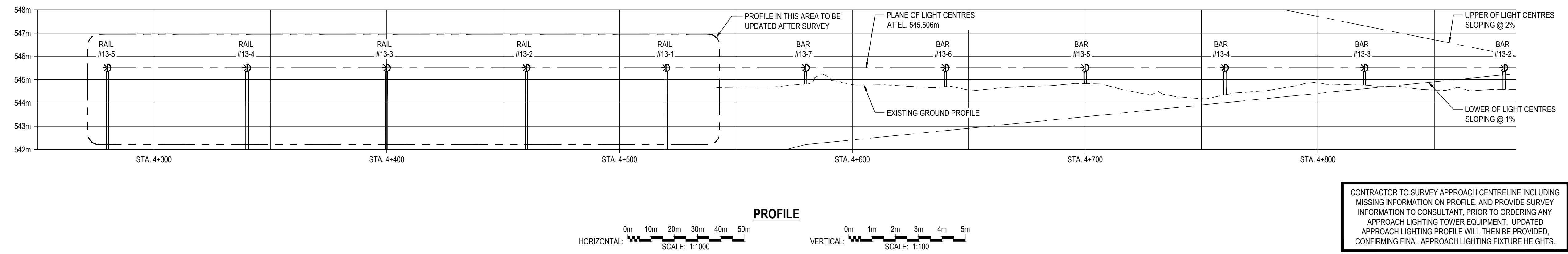
BAR/RAIL NO.	STATION	CIL LENS ELEV. (m)	HEIGHT A.F.G. (m)	GROUND ELEV. (m)	MOUNTING SUPPORT	NO. OF SUPPORTS	FIXTURE AIMING ANGLE (DEGREES)
THRESHOLD	5+000	-	-	545.156	-	-	-
BAR #13-1	4+940	545.506	0.655	544.851	CO-MOUNTED	-	-
BAR #13-2	4+880	545.506	0.925	544.581	CO-MOUNTED	-	-
BAR #13-3	4+820	545.506	0.743	544.763	CO-MOUNTED	-	-
BAR #13-4	4+760	545.506	1.162	544.344	TOWER MOUNTED	-	-
BAR #13-5	4+700	545.506	0.681	544.825	CO-MOUNTED	-	-
BAR #13-6	4+640	545.506	0.806	544.7	CO-MOUNTED	-	-
BAR #13-7	4+580	545.506	0.698	544.808	CO-MOUNTED	-	-
RAIL #13-1	4+520	545.506	T.B.D.	T.B.D.	T.B.D.	-	-
RAIL #13-2	4+460	545.506	T.B.D.	T.B.D.	T.B.D.	-	-
RAIL #13-3	4+400	545.506	T.B.D.	T.B.D.	T.B.D.	-	-
RAIL #13-4	4+340	545.506	T.B.D.	T.B.D.	T.B.D.	-	-
RAIL #13-5	4+280	545.506	T.B.D.	T.B.D.	T.B.D.	-	-

- NOTES:
- RUNWAY CROWN ELEVATION AT RUNWAY 13 THRESHOLD = 545.156m.
 - UNITS LESS THAN 1.0m ABOVE GRADE TO BE CO-MOUNTED. UNITS MORE THAN 1.0m ABOVE GRADE TO BE TOWER MOUNTED.



LEGEND

- STAKE MOUNTED MEDIUM INTENSITY LED WHITE RUNWAY EDGE LIGHT
- STAKE MOUNTED MEDIUM INTENSITY LED WHITE / YELLOW RUNWAY EDGE LIGHT (WHITE TO FACE APPROACH)
- STAKE MOUNTED MEDIUM INTENSITY LED BLUE TAXIWAY EDGE LIGHT
- STAKE MOUNTED MEDIUM INTENSITY LED RED / GREEN RUNWAY END / THRESHOLD LIGHT (GREEN TO FACE APPROACH)
- STAKE MOUNTED MEDIUM INTENSITY LED GREEN RUNWAY THRESHOLD LIGHT
- ☼ OMNI-DIRECTIONAL APPROACH LIGHTING SYSTEM (ODALS)
- MEDIUM INTENSITY APPROACH LIGHTING SYSTEM STEADY BURN LIGHT (MALS / MALSF / MALS SR)
- MEDIUM INTENSITY APPROACH LIGHTING SYSTEM STEADY BURN LIGHT WITH SEQUENCED FLASHING LIGHTS (MALSF)
- MEDIUM INTENSITY APPROACH LIGHTING SYSTEM STROBE LIGHT (MALS SR)
- △ PRECISION APPROACH PATH INDICATOR (PAPI)
- ☼ ILLUMINATED WINDSOCK
- ☼ RUNWAY GUARD LIGHT (RGL)
- ⊕ RETRO REFLECTOR EDGE MARKING
- 31-13 A TAXIWAY HOLD SIGN
- ← A RUNWAY EXIT SIGN
- APRON I ↑ APRON TURN-OFF SIGN
- MF 122.2 MANDATORY FREQUENCY SIGN
- ⊙ PULLPIT
- ⊙ PULLPIT LID (INSTALLED ON EXISTING PULLPIT)
- POWER CABLE / CONDUIT AS NOTED
- COMM CABLE / CONDUIT AS NOTED



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PLOT DATE: 2022/01/13 AT 15:11:21 PLOTTED BY: KLL
 CADD FILE: ELA1-ELAS.DWG [ELA1B]

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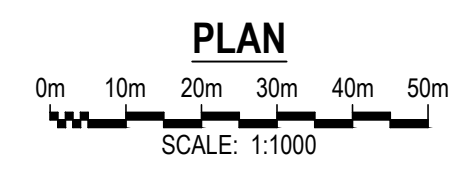
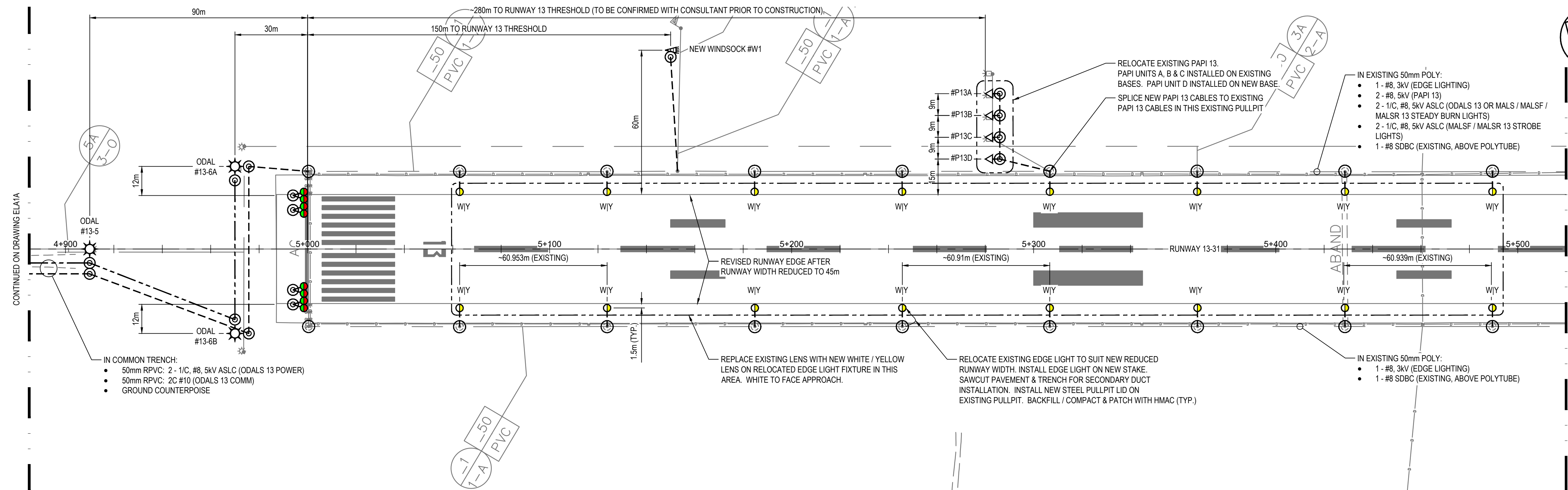
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ELECTRICAL LAYOUT SHEET 2 OF 5 OPTION #A - ODALS 13

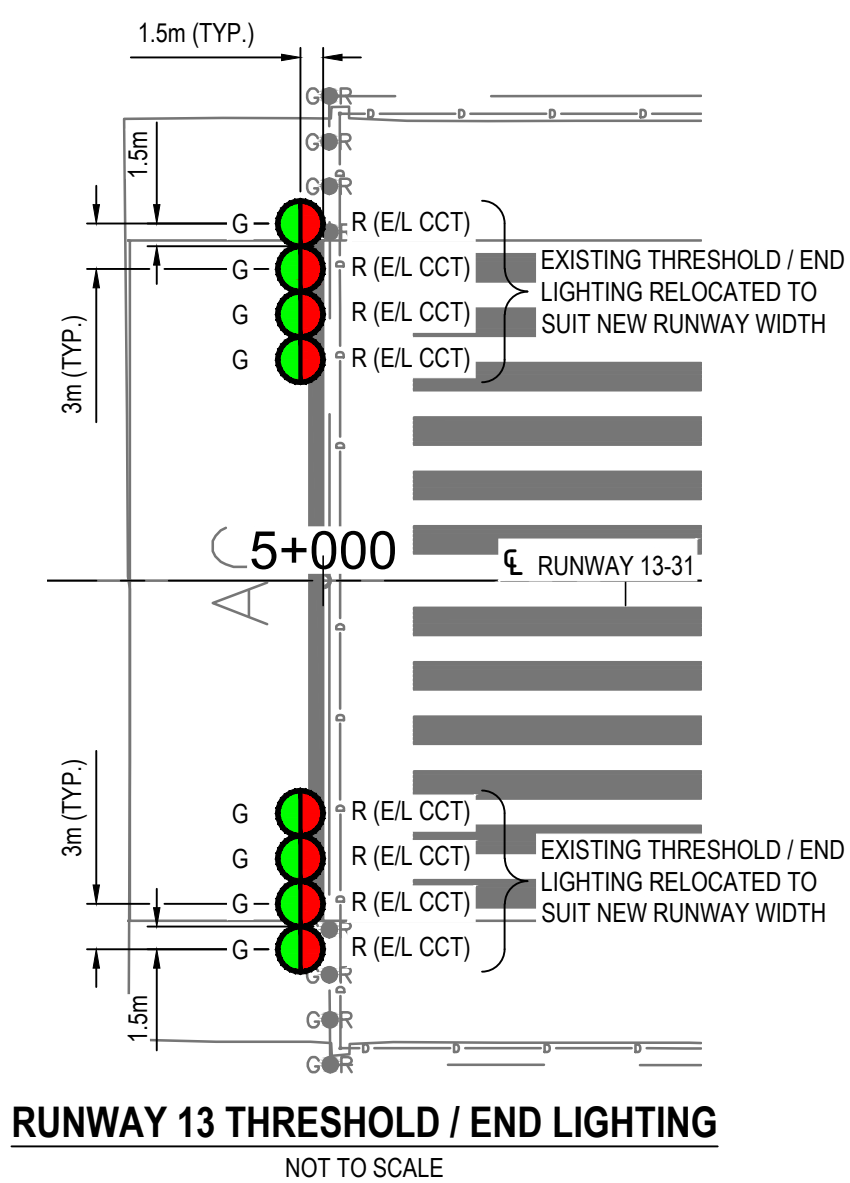
SHEET ID
ELA2A

ISSUED FOR TENDER



ODALS NUMBER	STATION	CENTRELINE LENS ELEVATION (m)	HEIGHT ABOVE FINISHED GRADE (m)	GROUND ELEVATION (m)	MOUNTING SUPPORT	NOTES
THRESHOLD	5+000	-	-	545.156	-	-
13-1	4+550	545.506	0.831	544.675	CO-MOUNTED	-
13-2	4+640	545.506	0.806	544.7	CO-MOUNTED	-
13-3	4+730	545.506	1.084	544.422	TOWER MOUNTED	-
13-4	4+820	545.506	0.743	544.763	CO-MOUNTED	-
13-5	4+910	545.506	0.625	544.881	CO-MOUNTED	-
13-6A	4+970	545.506	0.702	544.804	CO-MOUNTED	OFFSET 12m FROM LEFT EDGE OF RUNWAY
13-6B	4+970	545.506	0.702	544.804	CO-MOUNTED	OFFSET 12m FROM RIGHT EDGE OF RUNWAY

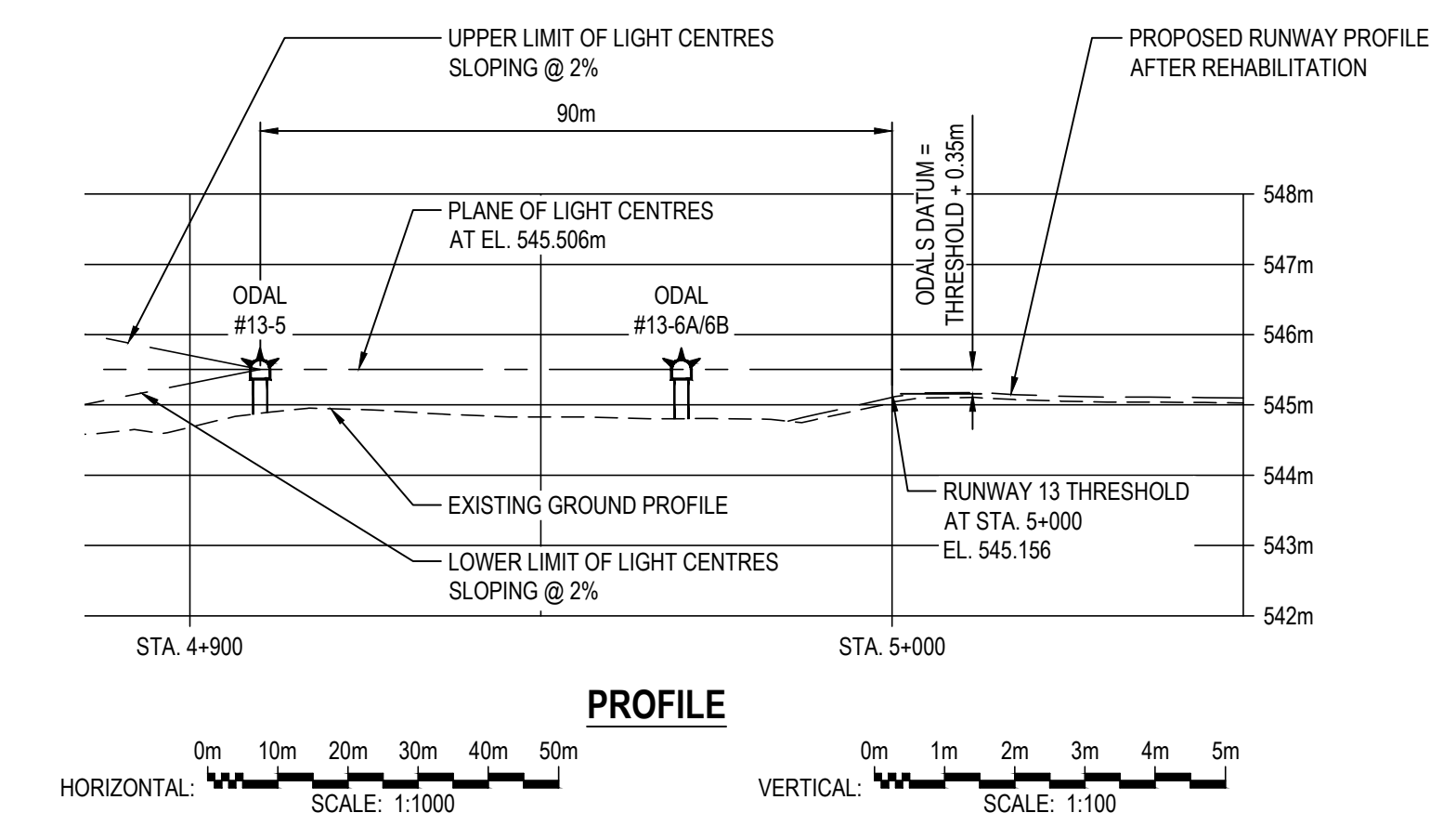
NOTES:
 1. RUNWAY CROWN ELEVATION AT RUNWAY 13 THRESHOLD = 545.156m.
 2. UNITS LESS THAN 1.0m ABOVE GRADE TO BE CO-MOUNTED. UNITS MORE THAN 1.0m ABOVE GRADE TO BE TOWER MOUNTED.



RUNWAY 13 THRESHOLD / END LIGHTING
NOT TO SCALE

LEGEND

- STAKE MOUNTED MEDIUM INTENSITY LED WHITE RUNWAY EDGE LIGHT
- STAKE MOUNTED MEDIUM INTENSITY LED WHITE / YELLOW RUNWAY EDGE LIGHT (WHITE TO FACE APPROACH)
- STAKE MOUNTED MEDIUM INTENSITY LED BLUE TAXIWAY EDGE LIGHT
- STAKE MOUNTED MEDIUM INTENSITY LED RED / GREEN RUNWAY END / THRESHOLD LIGHT (GREEN TO FACE APPROACH)
- STAKE MOUNTED MEDIUM INTENSITY LED GREEN RUNWAY THRESHOLD LIGHT
- ☼ OMNI-DIRECTIONAL APPROACH LIGHTING SYSTEM (ODALS)
- ○ ○ ○ ○ MEDIUM INTENSITY APPROACH LIGHTING SYSTEM STEADY BURN LIGHT (MALS / MALSF / MALSFR)
- ○ ○ ○ ○ MEDIUM INTENSITY APPROACH LIGHTING SYSTEM STEADY BURN LIGHT WITH SEQUENCED FLASHING LIGHTS (MALSF)
- ○ ○ ○ ○ MEDIUM INTENSITY APPROACH LIGHTING SYSTEM STROBE LIGHT (MALSFR)
- △ PRECISION APPROACH PATH INDICATOR (PAPI)
- ▲ ILLUMINATED WINDSOCK
- W RUNWAY GUARD LIGHT (RGL)
- ⊕ RETRO REFLECTOR EDGE MARKING
- 31-13 A TAXIWAY HOLD SIGN
- ← A RUNWAY EXIT SIGN
- APRON I ↑ APRON TURN-OFF SIGN
- MF 122.2 MANDATORY FREQUENCY SIGN
- ⊙ PULLPIT
- ⊙ PULLPIT LID (INSTALLED ON EXISTING PULLPIT)
- POWER CABLE / CONDUIT AS NOTED
- COMM CABLE / CONDUIT AS NOTED



PROFILE
 HORIZONTAL SCALE: 1:1000
 VERTICAL SCALE: 1:100

CONTRACTOR TO SURVEY APPROACH CENTRELINE INCLUDING MISSING INFORMATION ON PROFILE, AND PROVIDE SURVEY INFORMATION TO CONSULTANT, PRIOR TO ORDERING ANY APPROACH LIGHTING TOWER EQUIPMENT. UPDATED APPROACH LIGHTING PROFILE WILL THEN BE PROVIDED, CONFIRMING FINAL APPROACH LIGHTING FIXTURE HEIGHTS.

GENERAL NOTES:
 1. DRAWINGS BASED ON RECORD DATA PROVIDED BY THE QUESNEL AIRPORT.
 2. THIS DRAWING IS NOT TO BE USED FOR CONSTRUCTION PURPOSES UNTIL REVISION NOTED 'ISSUED FOR CONSTRUCTION'.
 3. ALL UNITS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.
 4. ALL EXISTING SURFACE/SUB-SURFACE FACILITIES/UTILITIES WITHIN CONSTRUCTION LIMITS TO BE PROTECTED DURING CONSTRUCTION.
 5. ALL AIRPORT SURFACES TO BE KEPT CLEAN OF CONSTRUCTION DEBRIS AND FOD. CLEAN SURFACES OF CONSTRUCTION DEBRIS AND FOD AS REQUIRED.
 6. COMPLETE ALL INSTALLATIONS TO COMPLY WITH:
 • CANADIAN ELECTRICAL CODE, C22.1 (LATEST EDITION)
 • TP 312, 5th EDITION
 7. REFER TO ELECTRICAL SPECIFICATIONS FOR FURTHER EQUIPMENT / INSTALLATION REQUIREMENTS.

SEALS / STATUS



GIBBINGS CONSULTING LTD. PERMIT TO PRACTICE 1001372

RUNWAY 13-31, TAXIWAY A AND APRON I REHABILITATION

QUESNEL AIRPORT

QUESNEL, BC

MARK	DESCRIPTION	DATE	APP'D
2	ISSUED FOR TENDER	2022/01/13	RG
1	ISSUED FOR 100% REVIEW	2021/12/22	RG
0	ISSUED FOR 90% REVIEW	2021/10/27	RG

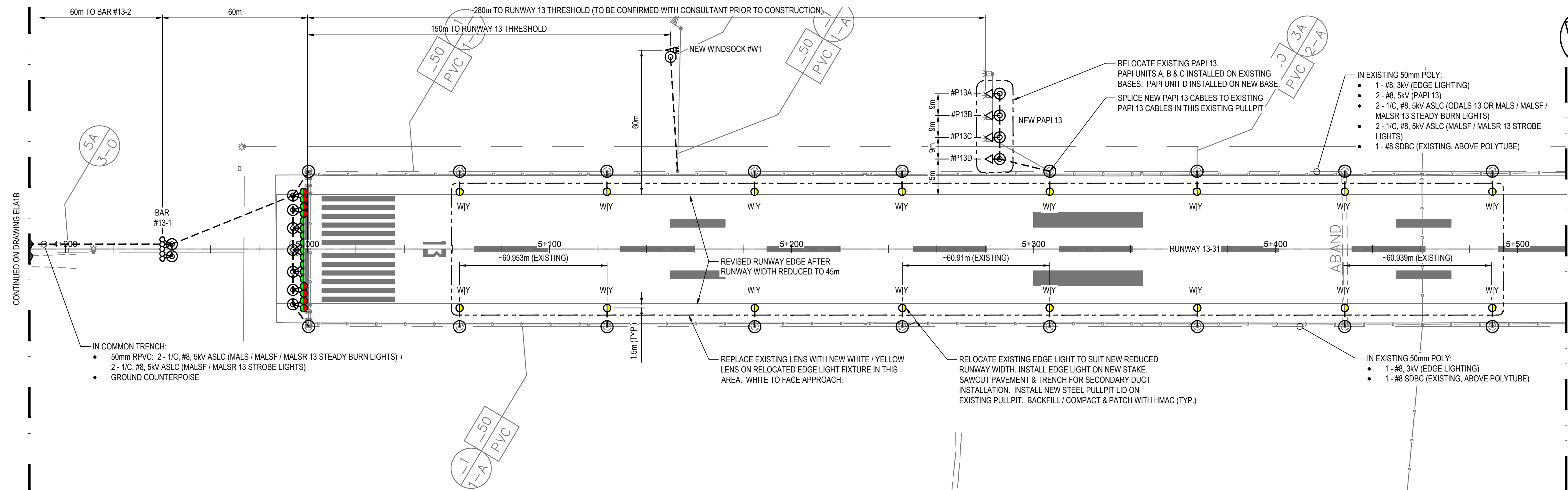
PROJECT NO : TRN.AIRP03390-02
 CONTRACT NO : N/A

DRAFTING BY : KLL
 DESIGN BY : RG
 CHECKED BY : RG

ELECTRICAL LAYOUT SHEET 2 OF 5
OPTION #B - MALS 13
OPTION #C - MALSF 13
OPTION #D - MALS 13

SHEET ID
ELA2B

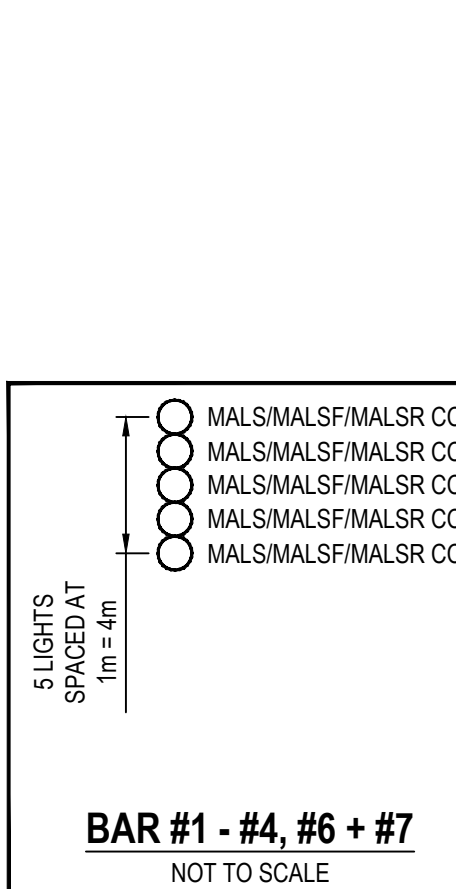
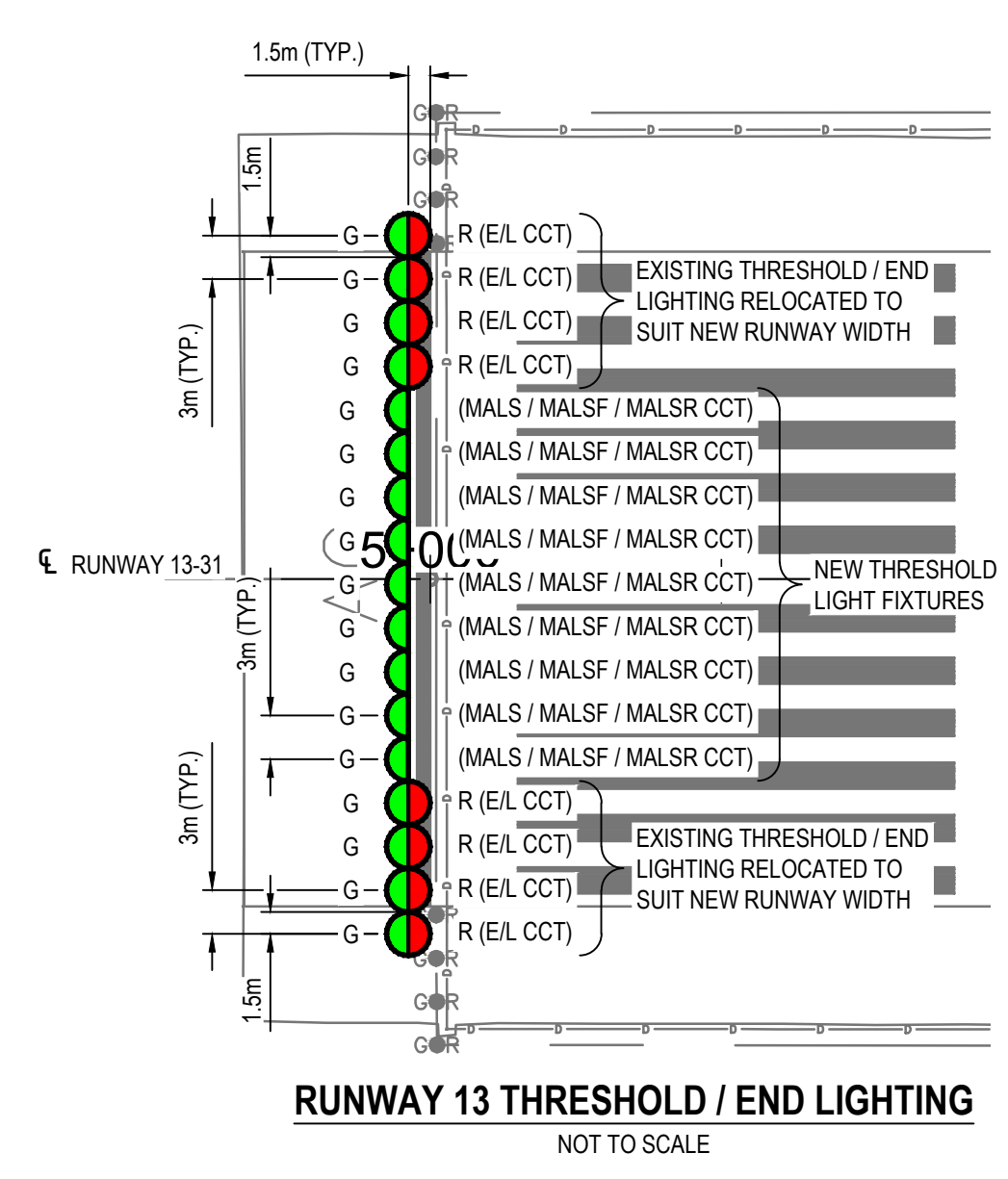
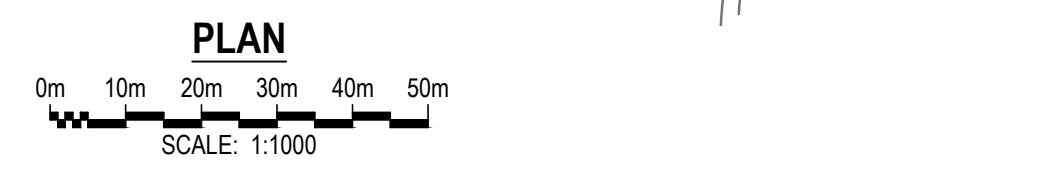
ISSUED FOR TENDER



RUNWAY 13 MALS INSTALLATION - OPTION #B
RUNWAY 13 MALSF INSTALLATION - OPTION #C
RUNWAY 13 MALS 13 INSTALLATION - OPTION #D

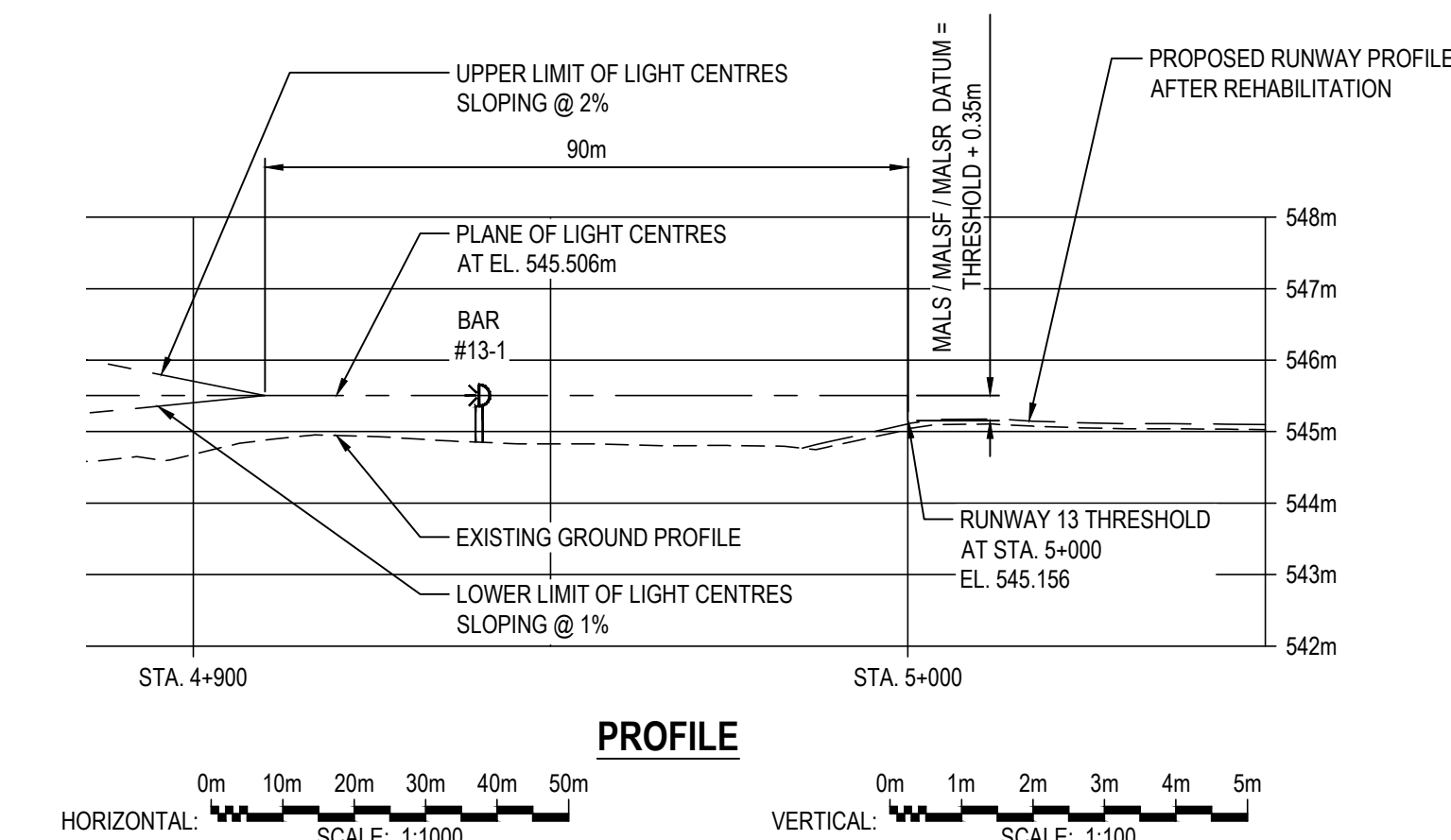
BAR/RAIL NO.	STATION	CIL LENS ELEV. (m)	HEIGHT A.F.G. (m)	GROUND ELEV. (m)	MOUNTING SUPPORT	NO. OF SUPPORTS	FIXTURE AIMING ANGLE (DEGREES)
THRESHOLD	5+000	-	-	545.156	-	-	-
BAR #13-1	4+940	545.506	0.655	544.851	CO-MOUNTED	-	-
BAR #13-2	4+880	545.506	0.925	544.581	CO-MOUNTED	-	-
BAR #13-3	4+820	545.506	0.743	544.763	CO-MOUNTED	-	-
BAR #13-4	4+760	545.506	1.162	544.344	TOWER MOUNTED	-	-
BAR #13-5	4+700	545.506	0.681	544.825	CO-MOUNTED	-	-
BAR #13-6	4+640	545.506	0.806	544.7	CO-MOUNTED	-	-
BAR #13-7	4+580	545.506	0.698	544.808	CO-MOUNTED	-	-
RAIL #13-1	4+520	545.506	T.B.D.	T.B.D.	T.B.D.	-	-
RAIL #13-2	4+460	545.506	T.B.D.	T.B.D.	T.B.D.	-	-
RAIL #13-3	4+400	545.506	T.B.D.	T.B.D.	T.B.D.	-	-
RAIL #13-4	4+340	545.506	T.B.D.	T.B.D.	T.B.D.	-	-
RAIL #13-5	4+280	545.506	T.B.D.	T.B.D.	T.B.D.	-	-

NOTES:
 1. RUNWAY CROWN ELEVATION AT RUNWAY 13 THRESHOLD = 545.156m.
 2. UNITS LESS THAN 1.0m ABOVE GRADE TO BE CO-MOUNTED. UNITS MORE THAN 1.0m ABOVE GRADE TO BE TOWER MOUNTED.



LEGEND

- STAKE MOUNTED MEDIUM INTENSITY LED WHITE RUNWAY EDGE LIGHT
- STAKE MOUNTED MEDIUM INTENSITY LED WHITE / YELLOW RUNWAY EDGE LIGHT (WHITE TO FACE APPROACH)
- STAKE MOUNTED MEDIUM INTENSITY LED BLUE TAXIWAY EDGE LIGHT
- STAKE MOUNTED MEDIUM INTENSITY LED RED / GREEN RUNWAY END / THRESHOLD LIGHT (GREEN TO FACE APPROACH)
- STAKE MOUNTED MEDIUM INTENSITY LED GREEN RUNWAY THRESHOLD LIGHT
- ☼ OMNI-DIRECTIONAL APPROACH LIGHTING SYSTEM (ODALS)
- ○ ○ ○ ○ MEDIUM INTENSITY APPROACH LIGHTING SYSTEM STEADY BURN LIGHT (MALS / MALSF / MALS)
- ○ ○ ○ ○ MEDIUM INTENSITY APPROACH LIGHTING SYSTEM STEADY BURN LIGHT WITH SEQUENCED FLASHING LIGHTS (MALSF)
- ○ ○ ○ ○ MEDIUM INTENSITY APPROACH LIGHTING SYSTEM STROBE LIGHT (MALS)
- △ PRECISION APPROACH PATH INDICATOR (PAPI)
- ▲ ILLUMINATED WINDSOCK
- W RUNWAY GUARD LIGHT (RGL)
- ⊕ RETRO REFLECTOR EDGE MARKING
- 31-13 A TAXIWAY HOLD SIGN
- ← A RUNWAY EXIT SIGN
- APRON I ↑ APRON TURN-OFF SIGN
- MF 122.2 MANDATORY FREQUENCY SIGN
- ⊙ PULLPIT
- ⊙ PULLPIT LID (INSTALLED ON EXISTING PULLPIT)
- POWER CABLE / CONDUIT AS NOTED
- COMM CABLE / CONDUIT AS NOTED

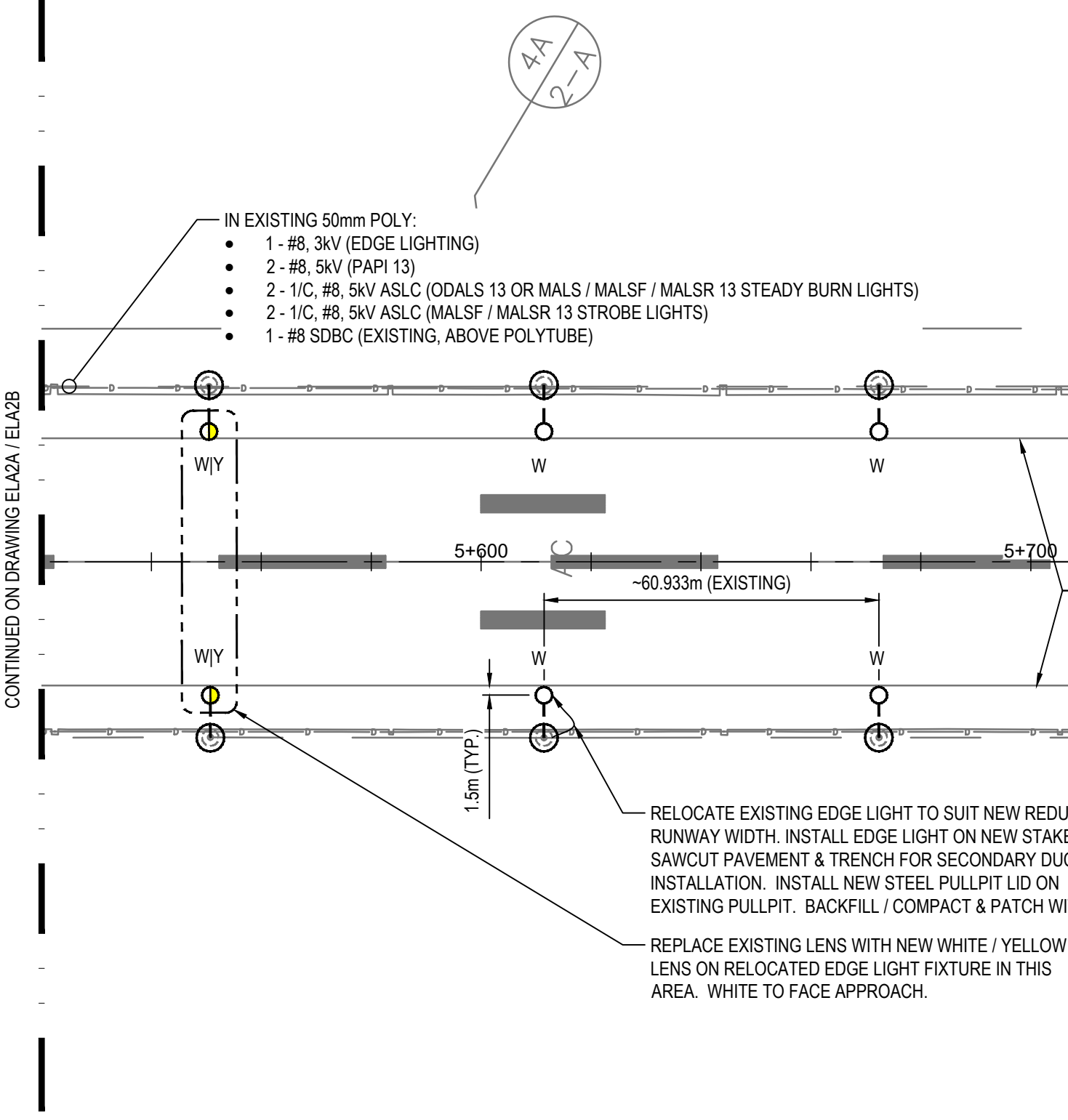
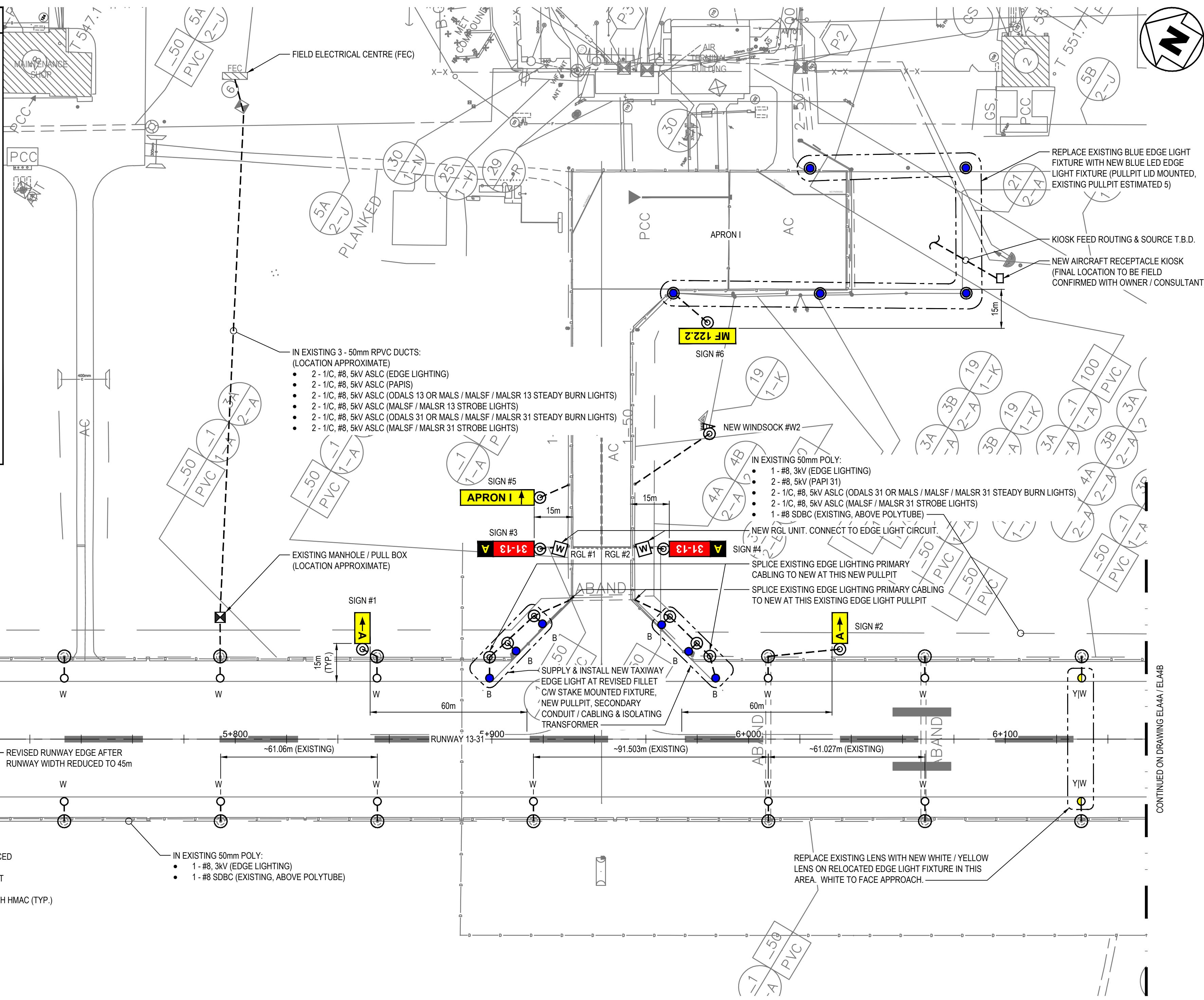


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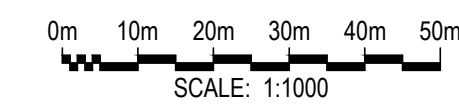
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LEGEND

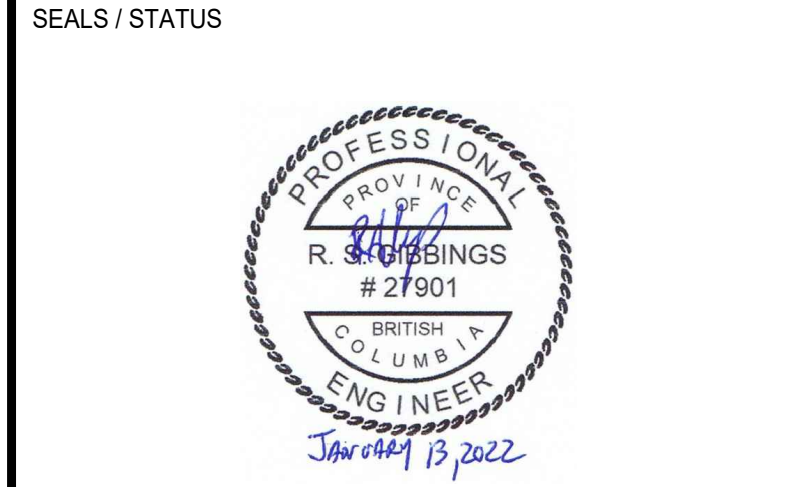
- STAKE MOUNTED MEDIUM INTENSITY LED WHITE RUNWAY EDGE LIGHT
- STAKE MOUNTED MEDIUM INTENSITY LED WHITE / YELLOW RUNWAY EDGE LIGHT (WHITE TO FACE APPROACH)
- STAKE MOUNTED MEDIUM INTENSITY LED BLUE TAXIWAY EDGE LIGHT
- STAKE MOUNTED MEDIUM INTENSITY LED RED / GREEN RUNWAY END / THRESHOLD LIGHT (GREEN TO FACE APPROACH)
- STAKE MOUNTED MEDIUM INTENSITY LED GREEN RUNWAY THRESHOLD LIGHT
- ☼ OMNI-DIRECTIONAL APPROACH LIGHTING SYSTEM (ODALS)
- ⊞ MEDIUM INTENSITY APPROACH LIGHTING SYSTEM STEADY BURN LIGHT (MALS / MALS F / MALS R)
- ⊞ MEDIUM INTENSITY APPROACH LIGHTING SYSTEM STEADY BURN LIGHT WITH SEQUENCED FLASHING LIGHTS (MALS F)
- ⊞ MEDIUM INTENSITY APPROACH LIGHTING SYSTEM STROBE LIGHT (MALS R)
- △ PRECISION APPROACH PATH INDICATOR (PAPI)
- ☐ ILLUMINATED WINDSOCK
- ☐ RUNWAY GUARD LIGHT (RGL)
- ⊙ RETRO REFLECTOR EDGE MARKING
- 31-13 A TAXIWAY HOLD SIGN
- ← A RUNWAY EXIT SIGN
- APRON I ↑ APRON TURN-OFF SIGN
- MF 122.2 MANDATORY FREQUENCY SIGN
- ⊙ PULLPIT
- ⊙ PULLPIT LID (INSTALLED ON EXISTING PULLPIT)
- POWER CABLE / CONDUIT AS NOTED
- COMM CABLE / CONDUIT AS NOTED



NEW AIRFIELD SIGN SCHEDULE						
SIGN NO.	SIGN FACE	CHARACTER HEIGHT (mm)	BACKGROUND COLOUR	CHARACTER COLOUR	CCT TO CONNECT TO	NOTES
1	← A	400	YELLOW	BLACK	EDGE LIGHTING CCT	-
2	A →	400	YELLOW	BLACK	EDGE LIGHTING CCT	-
3	31-13 A	400 400	RED BLACK	WHITE YELLOW	EDGE LIGHTING CCT	-
4	A 31-13	400 400	BLACK RED	YELLOW WHITE	EDGE LIGHTING CCT	-
5	APRON I →	400	YELLOW	BLACK	EDGE LIGHTING CCT	-
6	MF 122.2	400	YELLOW	BLACK	EDGE LIGHTING CCT	-



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 - ALL AIRPORT SURFACES TO BE KEPT CLEAN OF CONSTRUCTION DEBRIS AND FOD. CLEAN SURFACES OF CONSTRUCTION DEBRIS AND FOD AS REQUIRED.
 - COMPLETE ALL INSTALLATIONS TO COMPLY WITH:
 - CANADIAN ELECTRICAL CODE, C22.1 (LATEST EDITION)
 - TP 312, 5th EDITION
 - REFER TO ELECTRICAL SPECIFICATIONS FOR FURTHER EQUIPMENT / INSTALLATION REQUIREMENTS.



GIBBINGS CONSULTING LTD. PERMIT TO PRACTICE 1001372



RUNWAY 13-31, TAXIWAY A AND APRON I REHABILITATION

QUESNEL AIRPORT
 QUESNEL, BC

MARK	DESCRIPTION	DATE	APP'D
2	ISSUED FOR TENDER	2022/01/13	RG
1	ISSUED FOR 100% REVIEW	2021/12/22	RG
0	ISSUED FOR 90% REVIEW	2021/10/27	RG

PROJECT NO : TRN.AIRP03390-02
 CONTRACT NO : N/A
 DRAFTING BY : KLL
 DESIGN BY : RG
 CHECKED BY : RG

ELECTRICAL LAYOUT SHEET 3 OF 5

SHEET ID
ELA3

ISSUED FOR TENDER

GENERAL NOTES:

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- ALL AIRPORT SURFACES TO BE KEPT CLEAN OF CONSTRUCTION DEBRIS AND FOD. CLEAN SURFACES OF CONSTRUCTION DEBRIS AND FOD AS REQUIRED.
- COMPLETE ALL INSTALLATIONS TO COMPLY WITH:
 - CANADIAN ELECTRICAL CODE, C22.1 (LATEST EDITION)
 - TP 312, 5th EDITION
- REFER TO ELECTRICAL SPECIFICATIONS FOR FURTHER EQUIPMENT / INSTALLATION REQUIREMENTS.

SEALS / STATUS



GIBBINGS CONSULTING LTD. PERMIT TO PRACTICE 1001372

RUNWAY 13-31, TAXIWAY A AND APRON I REHABILITATION

QUESNEL AIRPORT QUESNEL, BC

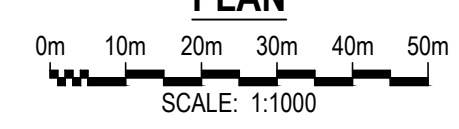
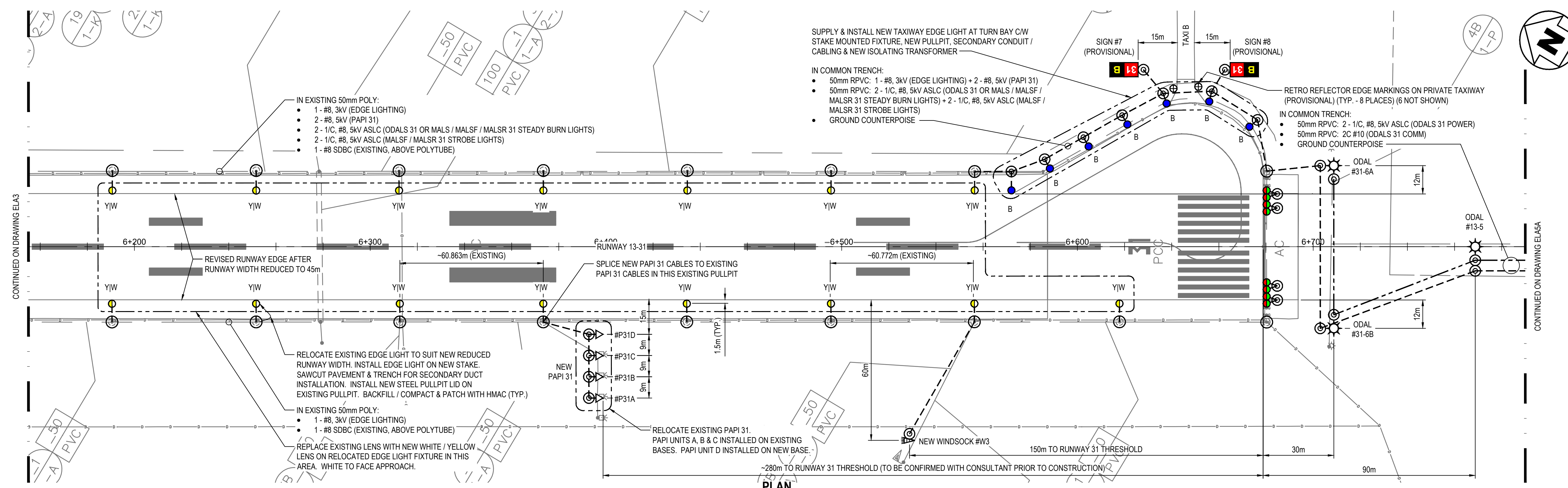
MARK	DESCRIPTION	DATE	APP'D
2	ISSUED FOR TENDER	2022/01/13	RG
1	ISSUED FOR 100% REVIEW	2021/12/22	RG
0	ISSUED FOR 90% REVIEW	2021/10/27	RG

PROJECT NO : TRN.AIRP03390-02
 CONTRACT NO : N/A
 DRAFTING BY : KLL
 DESIGN BY : RG
 CHECKED BY : RG

ELECTRICAL LAYOUT SHEET 4 OF 5 OPTION #A - ODALS 31

SHEET ID
ELA4A

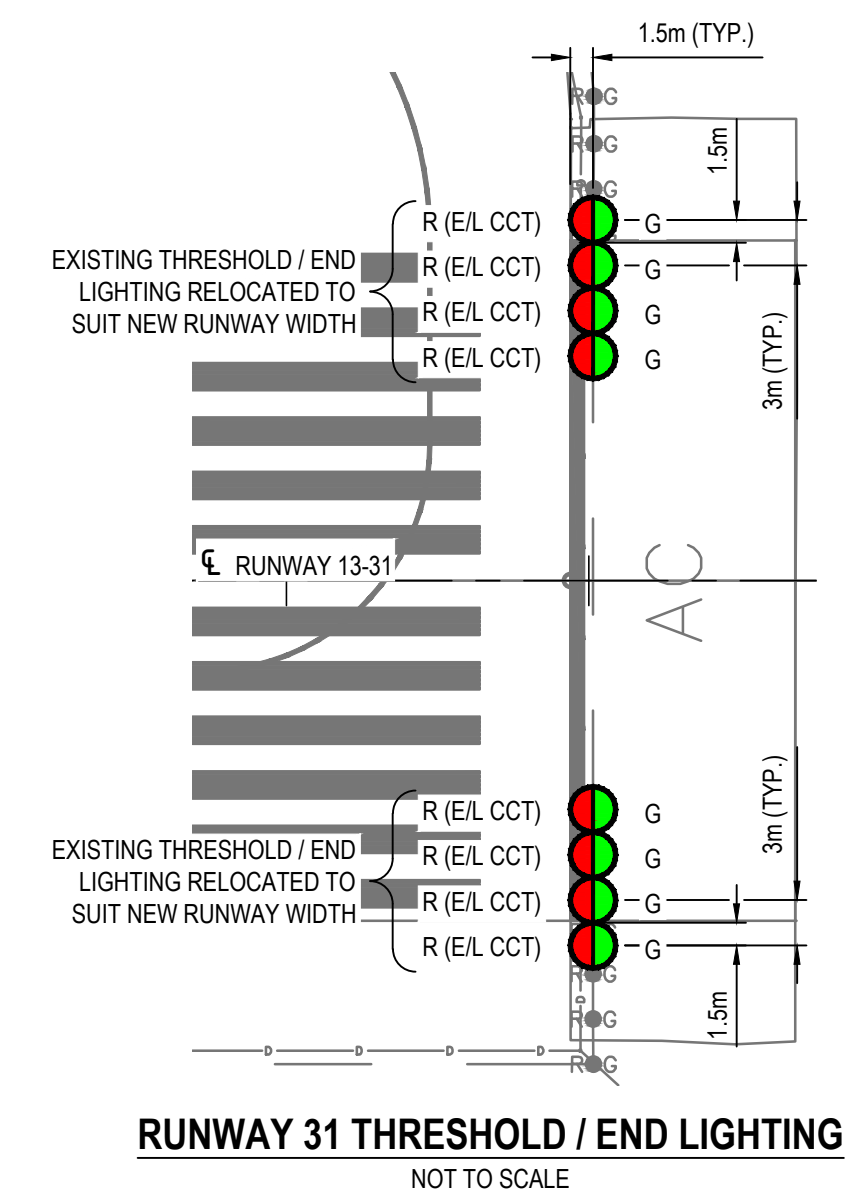
ISSUED FOR TENDER



ODALS NUMBER	STATION	CENTRELINE LENS ELEVATION (m)	HEIGHT ABOVE FINISHED GRADE (m)	GROUND ELEVATION (m)	MOUNTING SUPPORT	NOTES
THRESHOLD	6+678.770	-	-	543.089	-	-
31-1	7+128.770	543.727	0.938	542.789	CO-MOUNTED	-
31-2	7+038.770	543.655	0.512	543.143	CO-MOUNTED	-
31-3	6+948.770	543.583	0.584	542.999	CO-MOUNTED	-
31-4	6+858.770	543.511	1.186	542.325	TOWER MOUNTED	-
31-5	6+768.770	543.439	0.519	542.92	CO-MOUNTED	-
31-6A	6+708.770	543.439	0.383	543.056	CO-MOUNTED	OFFSET 12m FROM LEFT EDGE OF RUNWAY
31-6B	6+708.770	543.439	0.383	543.056	CO-MOUNTED	OFFSET 12m FROM RIGHT EDGE OF RUNWAY

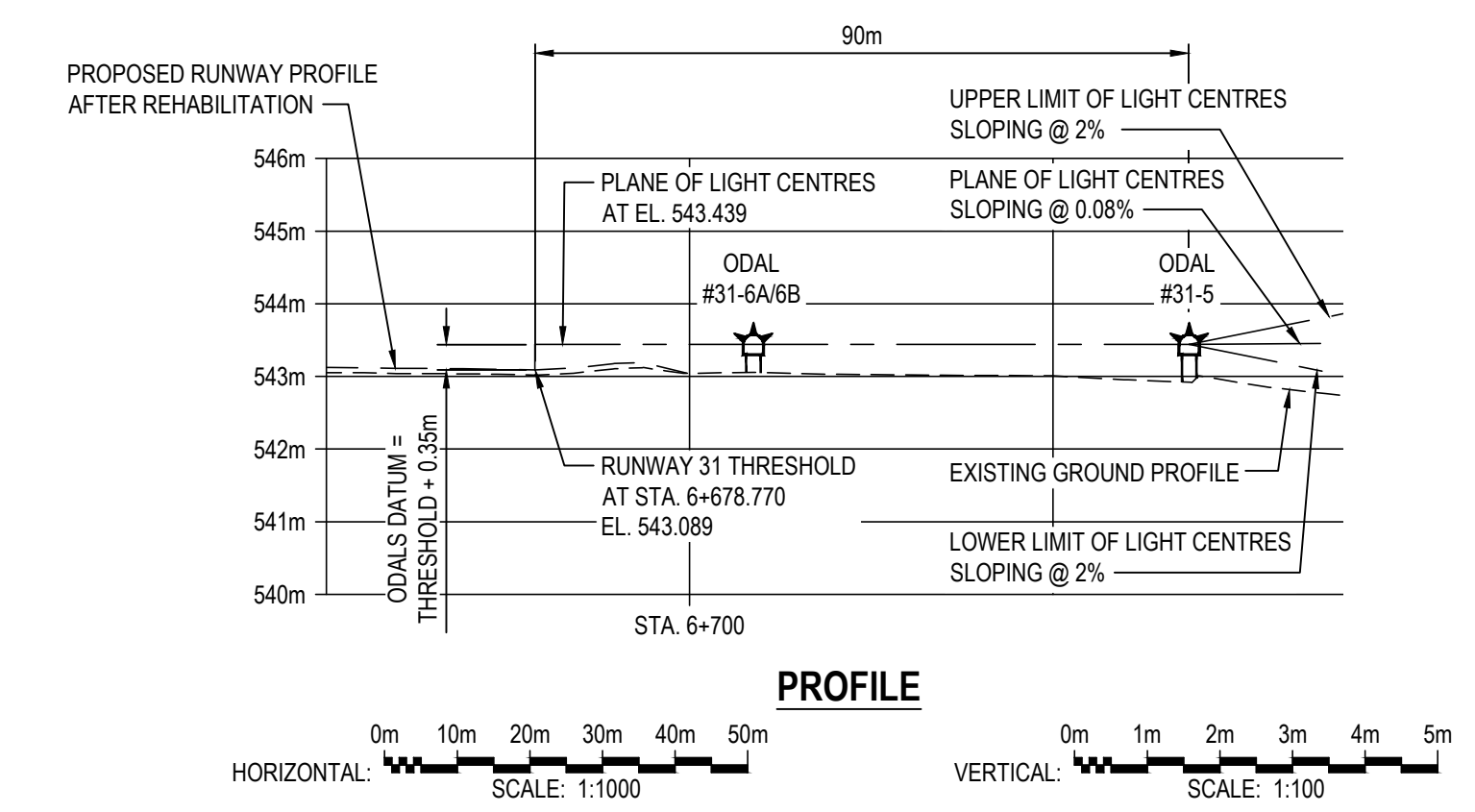
NOTES:

- RUNWAY CROWN ELEVATION AT RUNWAY 31 THRESHOLD = 543.089m.
- UNITS LESS THAN 1.0m ABOVE GRADE TO BE CO-MOUNTED. UNITS MORE THAN 1.0m ABOVE GRADE TO BE TOWER MOUNTED.



RUNWAY 31 THRESHOLD / END LIGHTING
NOT TO SCALE

	STAKE MOUNTED MEDIUM INTENSITY LED WHITE RUNWAY EDGE LIGHT
	STAKE MOUNTED MEDIUM INTENSITY LED WHITE / YELLOW RUNWAY EDGE LIGHT (WHITE TO FACE APPROACH)
	STAKE MOUNTED MEDIUM INTENSITY LED BLUE TAXIWAY EDGE LIGHT
	STAKE MOUNTED MEDIUM INTENSITY LED RED / GREEN RUNWAY END / THRESHOLD LIGHT (GREEN TO FACE APPROACH)
	STAKE MOUNTED MEDIUM INTENSITY LED GREEN RUNWAY THRESHOLD LIGHT
	OMNI-DIRECTIONAL APPROACH LIGHTING SYSTEM (ODALS)
	MEDIUM INTENSITY APPROACH LIGHTING SYSTEM STEADY BURN LIGHT (MALS / MALSF / MALSR)
	MEDIUM INTENSITY APPROACH LIGHTING SYSTEM STEADY BURN LIGHT WITH SEQUENCED FLASHING LIGHTS (MALSF)
	MEDIUM INTENSITY APPROACH LIGHTING SYSTEM STROBE LIGHT (MALSR)
	PRECISION APPROACH PATH INDICATOR (PAPI)
	ILLUMINATED WINDSOCK
	RUNWAY GUARD LIGHT (RGL)
	RETRO REFLECTOR EDGE MARKING
	TAXIWAY HOLD SIGN
	RUNWAY EXIT SIGN
	APRON TURN-OFF SIGN
	MANDATORY FREQUENCY SIGN
	PULLPIT
	PULLPIT LID (INSTALLED ON EXISTING PULLPIT)
	POWER CABLE / CONDUIT AS NOTED
	COMM CABLE / CONDUIT AS NOTED



PROFILE
HORIZONTAL: SCALE: 1:1000 VERTICAL: SCALE: 1:100

SIGN NO.	SIGN FACE	CHARACTER HEIGHT (mm)	BACKGROUND COLOUR	CHARACTER COLOUR	CCT TO CONNECT TO	NOTES
7	31 B	400 400	RED BLACK	WHITE YELLOW	EDGE LIGHTING CCT	PROVISIONAL
8	B 31	400 400	BLACK RED	YELLOW WHITE	EDGE LIGHTING CCT	PROVISIONAL

CONTRACTOR TO SURVEY APPROACH CENTRELINE INCLUDING MISSING INFORMATION ON PROFILE, AND PROVIDE SURVEY INFORMATION TO CONSULTANT, PRIOR TO ORDERING ANY APPROACH LIGHTING TOWER EQUIPMENT. UPDATED APPROACH LIGHTING PROFILE WILL THEN BE PROVIDED, CONFIRMING FINAL APPROACH LIGHTING FIXTURE HEIGHTS.

CONSULTANTS



GENERAL NOTES:

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- ALL AIRPORT SURFACES TO BE KEPT CLEAN OF CONSTRUCTION DEBRIS AND FOD. CLEAN SURFACES OF CONSTRUCTION DEBRIS AND FOD AS REQUIRED.
- COMPLETE ALL INSTALLATIONS TO COMPLY WITH:
 - CANADIAN ELECTRICAL CODE, C22.1 (LATEST EDITION)
 - TP 312, 5th EDITION
- REFER TO ELECTRICAL SPECIFICATIONS FOR FURTHER EQUIPMENT / INSTALLATION REQUIREMENTS.

SEALS / STATUS



GIBBINGS CONSULTING LTD. PERMIT TO PRACTICE 1001372



**RUNWAY 13-31,
TAXIWAY A AND APRON I
REHABILITATION**

**QUESNEL AIRPORT
QUESNEL, BC**

MARK	DESCRIPTION	DATE	APP'D
2	ISSUED FOR TENDER	2022/01/13	RG
1	ISSUED FOR 100% REVIEW	2021/12/22	RG
0	ISSUED FOR 90% REVIEW	2021/10/27	RG

PROJECT NO : TRN.AIRP03390-02

CONTRACT NO : N/A

DRAFTING BY : KLL

DESIGN BY : RG

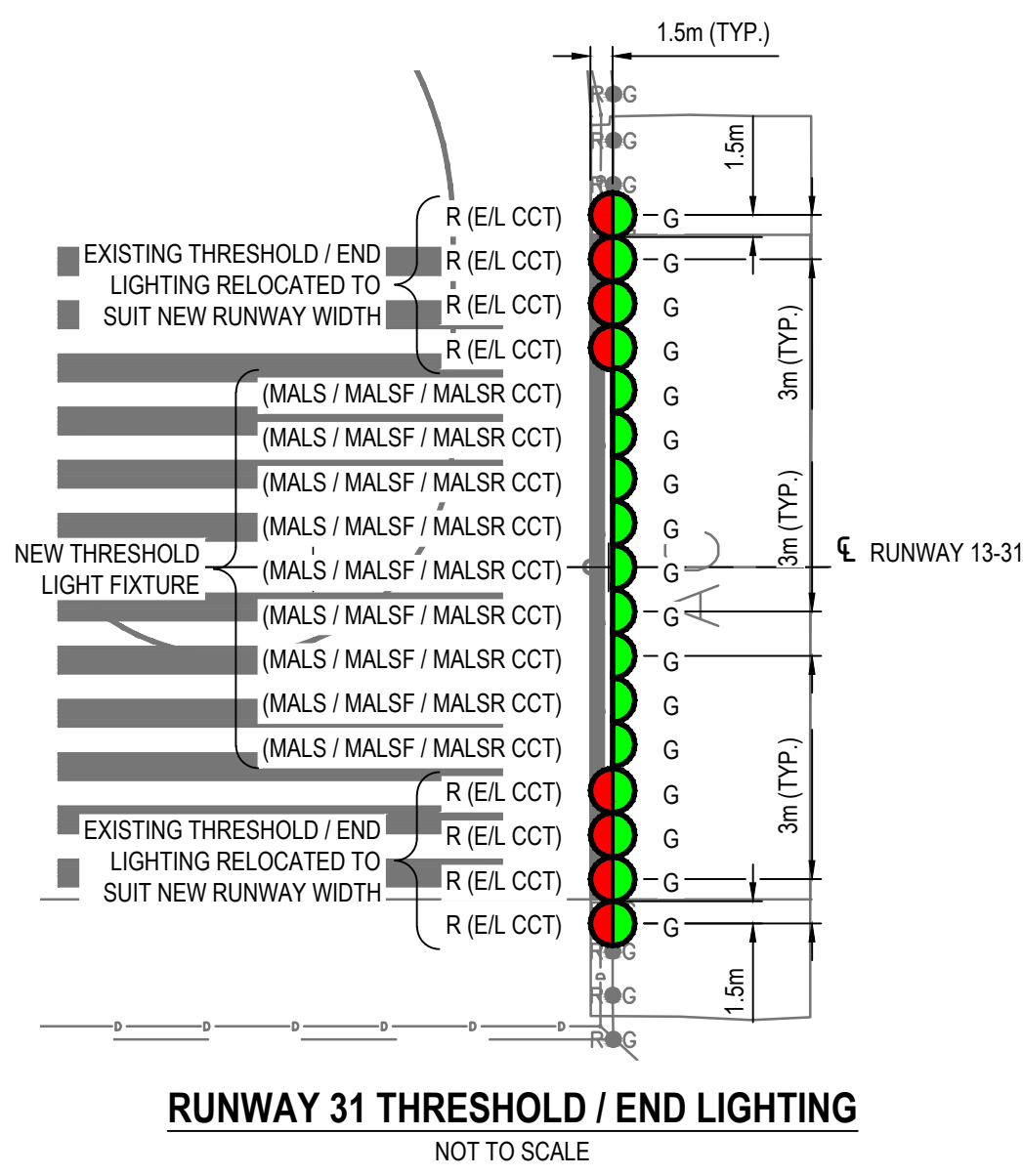
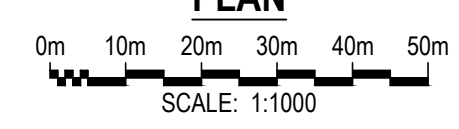
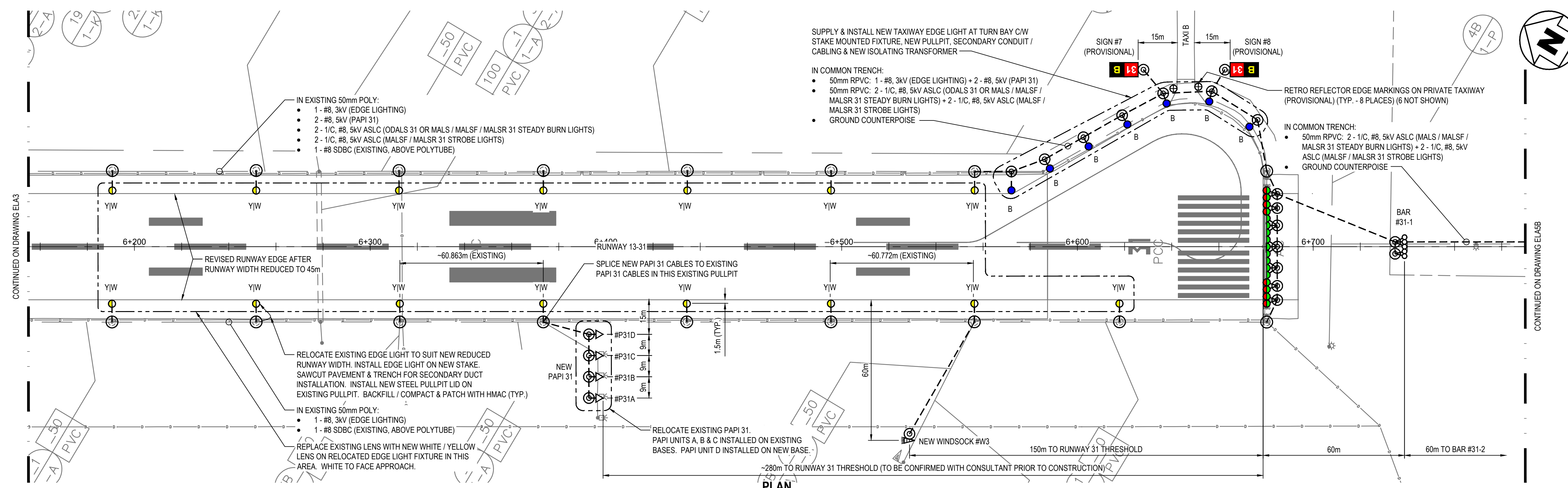
CHECKED BY : RG

**ELECTRICAL LAYOUT
SHEET 4 OF 5
OPTION #B - MALS 31
OPTION #C - MALSF 31
OPTION #D - MALS 31**

SHEET ID

ELA4B

50 mm

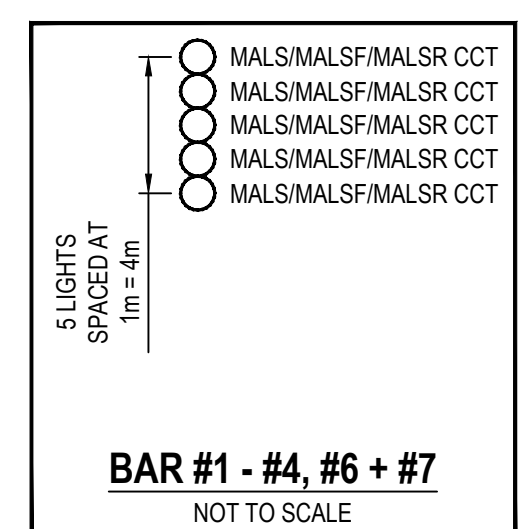


RUNWAY 31 THRESHOLD / END LIGHTING
NOT TO SCALE

**RUNWAY 31 MALS INSTALLATION - OPTION #B
RUNWAY 31 MALSF INSTALLATION - OPTION #C
RUNWAY 31 MALS 31 INSTALLATION - OPTION #D**

BAR/RAIL NO.	STATION	C/L LENS ELEV. (m)	HEIGHT A.F.G. (m)	GROUND ELEV. (m)	MOUNTING SUPPORT	NO. OF SUPPORTS	FIXTURE AIMING ANGLE (DEGREES)
THRESHOLD	6+678.770	-	-	543.089	-	-	-
BAR #31-1	6+738.770	543.439	0.425	543.014	CO-MOUNTED	-	-
BAR #31-2	6+798.770	543.439	0.745	542.694	CO-MOUNTED	-	-
BAR #31-3	6+858.770	543.493	1.168	542.325	TOWER MOUNTED	-	-
BAR #31-4	6+918.770	543.547	0.988	542.559	CO-MOUNTED	-	-
BAR #31-5	6+978.770	543.601	0.703	542.898	CO-MOUNTED	-	-
BAR #31-6	7+038.770	543.655	0.512	543.143	CO-MOUNTED	-	-
BAR #31-7	7+098.770	543.655	0.817	542.838	CO-MOUNTED	-	-
RAIL #31-1	7+158.770	543.655	0.911	542.744	CO-MOUNTED	-	-
RAIL #31-2	7+218.770	543.655	T.B.D.	T.B.D.	T.B.D.	-	-
RAIL #31-3	7+278.770	543.655	T.B.D.	T.B.D.	T.B.D.	-	-
RAIL #31-4	7+338.770	543.655	T.B.D.	T.B.D.	T.B.D.	-	-
RAIL #31-5	7+398.770	543.655	T.B.D.	T.B.D.	T.B.D.	-	-

- NOTES:**
- RUNWAY CROWN ELEVATION AT RUNWAY 31 THRESHOLD = 543.089m.
 - UNITS LESS THAN 1.0m ABOVE GRADE TO BE CO-MOUNTED. UNITS MORE THAN 1.0m ABOVE GRADE TO BE TOWER MOUNTED.



BAR #1 - #4, #6 + #7
NOT TO SCALE

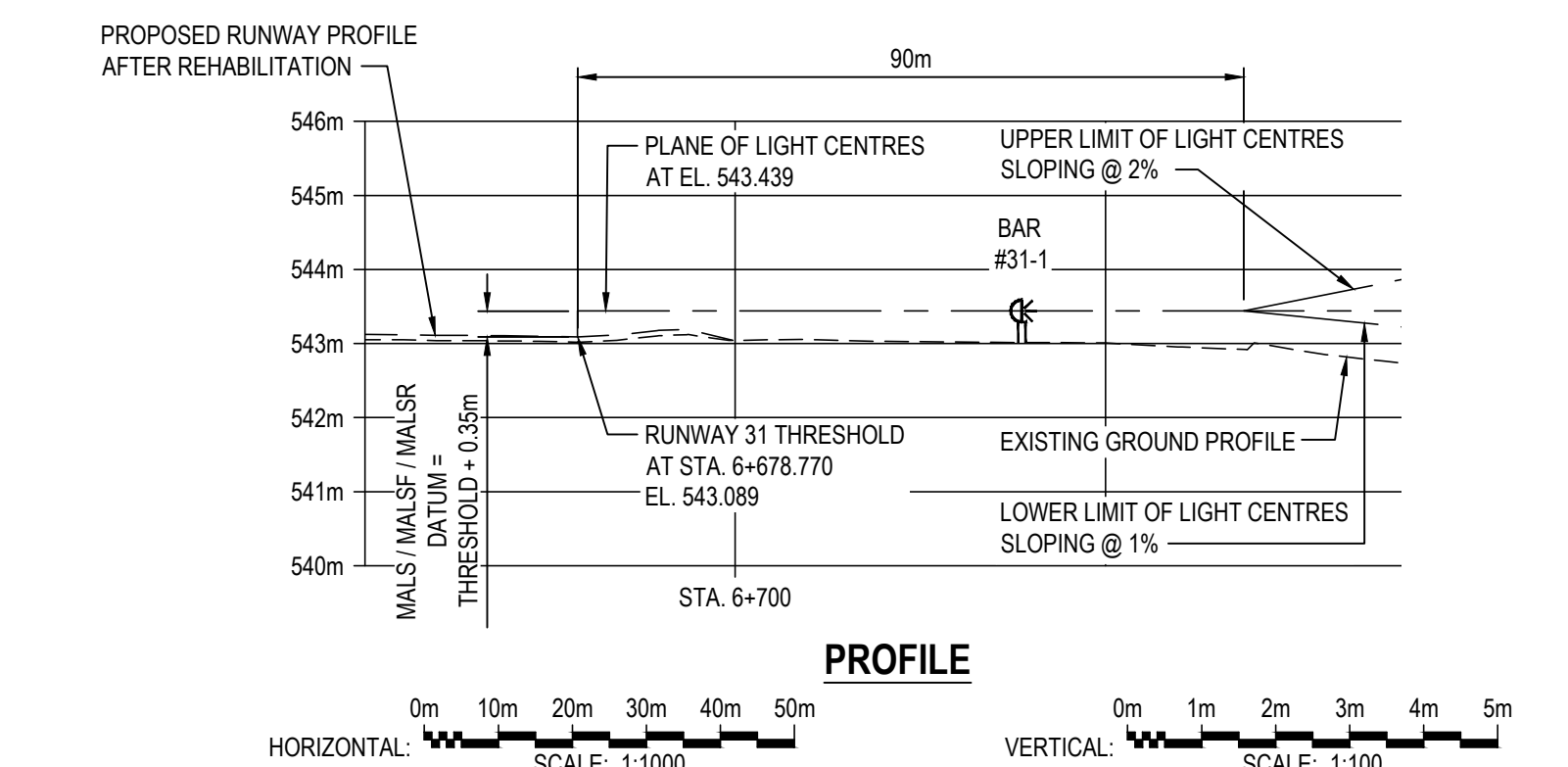
NEW AIRFIELD SIGN SCHEDULE

SIGN NO.	SIGN FACE	CHARACTER HEIGHT (mm)	BACKGROUND COLOUR	CHARACTER COLOUR	CCT TO CONNECT TO	NOTES
7	31 B	400 400	RED BLACK	WHITE YELLOW	EDGE LIGHTING CCT	PROVISIONAL
8	B 31	400 400	BLACK RED	YELLOW WHITE	EDGE LIGHTING CCT	PROVISIONAL

CONTRACTOR TO SURVEY APPROACH CENTRELINE INCLUDING MISSING INFORMATION ON PROFILE, AND PROVIDE SURVEY INFORMATION TO CONSULTANT, PRIOR TO ORDERING ANY APPROACH LIGHTING TOWER EQUIPMENT. UPDATED APPROACH LIGHTING PROFILE WILL THEN BE PROVIDED, CONFIRMING FINAL APPROACH LIGHTING FIXTURE HEIGHTS.

LEGEND

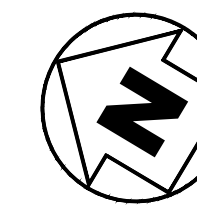
- STAKE MOUNTED MEDIUM INTENSITY LED WHITE RUNWAY EDGE LIGHT
- STAKE MOUNTED MEDIUM INTENSITY LED WHITE / YELLOW RUNWAY EDGE LIGHT (WHITE TO FACE APPROACH)
- STAKE MOUNTED MEDIUM INTENSITY LED BLUE TAXIWAY EDGE LIGHT
- STAKE MOUNTED MEDIUM INTENSITY LED RED / GREEN RUNWAY END / THRESHOLD LIGHT (GREEN TO FACE APPROACH)
- STAKE MOUNTED MEDIUM INTENSITY LED GREEN RUNWAY THRESHOLD LIGHT
- ☼ OMNI-DIRECTIONAL APPROACH LIGHTING SYSTEM (ODALS)
- ○ ○ ○ ○ MEDIUM INTENSITY APPROACH LIGHTING SYSTEM STEADY BURN LIGHT (MALS / MALSF / MALS 31)
- ○ ○ ○ ○ MEDIUM INTENSITY APPROACH LIGHTING SYSTEM STEADY BURN LIGHT WITH SEQUENCED FLASHING LIGHTS (MALSF)
- ○ ○ ○ ○ MEDIUM INTENSITY APPROACH LIGHTING SYSTEM STROBE LIGHT (MALS 31)
- △ PRECISION APPROACH PATH INDICATOR (PAPI)
- ⊠ ILLUMINATED WINDSOCK
- ⊠ RUNWAY GUARD LIGHT (RGL)
- ⊕ RETRO REFLECTOR EDGE MARKING
- ⊕ TAXIWAY HOLD SIGN
- ⊕ RUNWAY EXIT SIGN
- ⊕ APRON TURN-OFF SIGN
- ⊕ MANDATORY FREQUENCY SIGN
- ⊕ PULLPIT
- ⊕ PULLPIT LID (INSTALLED ON EXISTING PULLPIT)
- POWER CABLE / CONDUIT AS NOTED
- COMM CABLE / CONDUIT AS NOTED



PROFILE
HORIZONTAL: SCALE: 1:1000
VERTICAL: SCALE: 1:100

PLOT DATE: 2022/01/13 AT 15:11:39 PLOTTED BY: KLL
CADD FILE: ELA1-ELAS.DWG [ELA4B]

ISSUED FOR TENDER



CONSULTANTS



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 - TP 312, 5th EDITION
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SEALS / STATUS



GIBBINGS CONSULTING LTD. PERMIT TO PRACTICE 1001372



**RUNWAY 13-31,
TAXIWAY A AND APRON I
REHABILITATION**

**QUESNEL AIRPORT
QUESNEL, BC**

MARK	DESCRIPTION	DATE	APP'D
2	ISSUED FOR TENDER	2022/01/13	RG
1	ISSUED FOR 100% REVIEW	2021/12/22	RG
0	ISSUED FOR 90% REVIEW	2021/10/27	RG

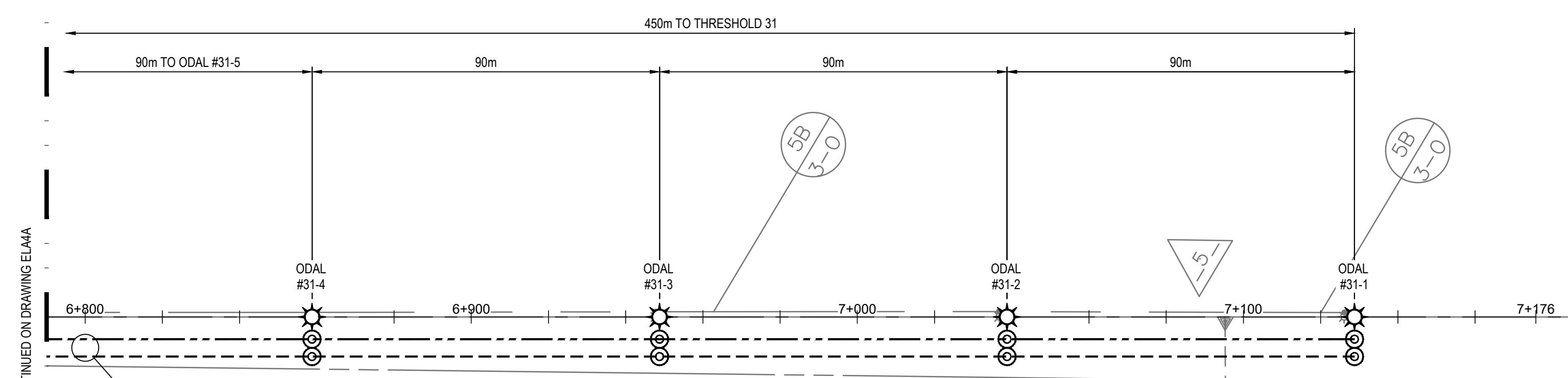
PROJECT NO : TRN.AIRP03390-02
 CONTRACT NO : N/A
 DRAFTING BY : KLL
 DESIGN BY : RG
 CHECKED BY : RG

**ELECTRICAL LAYOUT
SHEET 5 OF 5
OPTION #A: ODALS 31**

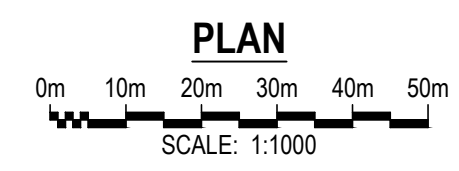
SHEET ID
ELA5A

50 mm

ISSUED FOR TENDER



- IN COMMON TRENCH:
- 50mm RPVC: 2-1/C, #8, 5KV ASLC (ODALS 31 POWER)
 - 50mm RPVC: 2C #10 (ODALS 31 COMM)
 - GROUND COUNTERPOISE

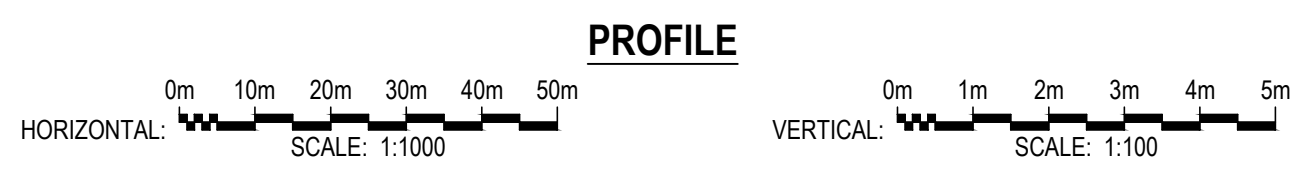
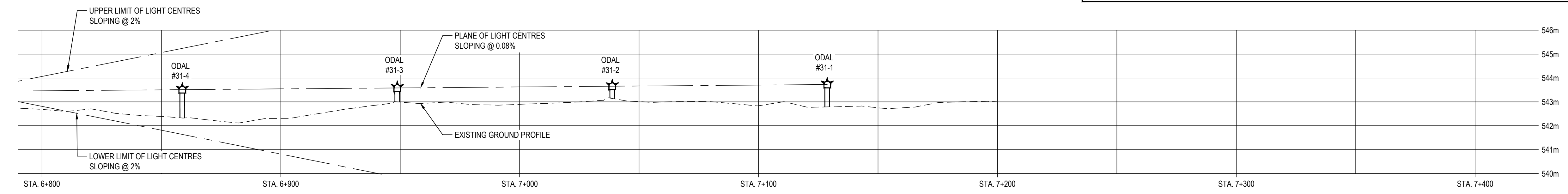


RUNWAY 31 ODALS INSTALLATION - OPTION #A						
ODALS NUMBER	STATION	CENTRELINE LENS ELEVATION (m)	HEIGHT ABOVE FINISHED GRADE (m)	GROUND ELEVATION (m)	MOUNTING SUPPORT	NOTES
THRESHOLD	6+678.770	-	-	543.089	-	-
31-1	7+128.770	543.727	0.938	542.789	CO-MOUNTED	-
31-2	7+038.770	543.655	0.512	543.143	CO-MOUNTED	-
31-3	6+948.770	543.583	0.584	542.999	CO-MOUNTED	-
31-4	6+858.770	543.511	1.186	542.325	TOWER MOUNTED	-
31-5	6+768.770	543.439	0.519	542.92	CO-MOUNTED	-
31-6A	6+708.770	543.439	0.383	543.056	CO-MOUNTED	OFFSET 12m FROM LEFT EDGE OF RUNWAY
31-6B	6+708.770	543.439	0.383	543.056	CO-MOUNTED	OFFSET 12m FROM RIGHT EDGE OF RUNWAY

NOTES:

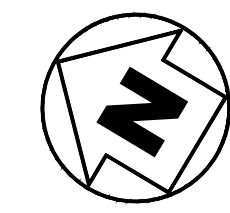
- RUNWAY CROWN ELEVATION AT RUNWAY 31 THRESHOLD = 543.089m.
- UNITS LESS THAN 1.0m ABOVE GRADE TO BE CO-MOUNTED. UNITS MORE THAN 1.0m ABOVE GRADE TO BE TOWER MOUNTED.

LEGEND	
	STAKE MOUNTED MEDIUM INTENSITY LED WHITE RUNWAY EDGE LIGHT
	STAKE MOUNTED MEDIUM INTENSITY LED WHITE / YELLOW RUNWAY EDGE LIGHT (WHITE TO FACE APPROACH)
	STAKE MOUNTED MEDIUM INTENSITY LED BLUE TAXIWAY EDGE LIGHT
	STAKE MOUNTED MEDIUM INTENSITY LED RED / GREEN RUNWAY END / THRESHOLD LIGHT (GREEN TO FACE APPROACH)
	STAKE MOUNTED MEDIUM INTENSITY LED GREEN RUNWAY THRESHOLD LIGHT
	OMNI-DIRECTIONAL APPROACH LIGHTING SYSTEM (ODALS)
	MEDIUM INTENSITY APPROACH LIGHTING SYSTEM STEADY BURN LIGHT (MALS / MALSF / MALSFR)
	MEDIUM INTENSITY APPROACH LIGHTING SYSTEM STEADY BURN LIGHT WITH SEQUENCED FLASHING LIGHTS (MALSFF)
	MEDIUM INTENSITY APPROACH LIGHTING SYSTEM STROBE LIGHT (MALSFR)
	PRECISION APPROACH PATH INDICATOR (PAPI)
	ILLUMINATED WINDSOCK
	RUNWAY GUARD LIGHT (RGL)
	RETRO REFLECTOR EDGE MARKING
	TAXIWAY HOLD SIGN
	RUNWAY EXIT SIGN
	APRON TURN-OFF SIGN
	MANDATORY FREQUENCY SIGN
	PULLPIT
	PULLPIT LID (INSTALLED ON EXISTING PULLPIT)
	POWER CABLE / CONDUIT AS NOTED
	COMM CABLE / CONDUIT AS NOTED



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PLOT DATE: 2022/01/13 AT 15:11:42 PLOTTED BY: KLL
CADD FILE: ELA1-ELAS.DWG [ELA5A]



CONSULTANTS



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 - TP 312, 5th EDITION
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SEALS / STATUS



GIBBINGS CONSULTING LTD. PERMIT TO PRACTICE 1001372



RUNWAY 13-31, TAXIWAY A AND APRON I REHABILITATION

QUESNEL AIRPORT
QUESNEL, BC

MARK	DESCRIPTION	DATE	APP'D
2	ISSUED FOR TENDER	2022/01/13	RG
1	ISSUED FOR 100% REVIEW	2021/12/22	RG
0	ISSUED FOR 90% REVIEW	2021/10/27	RG

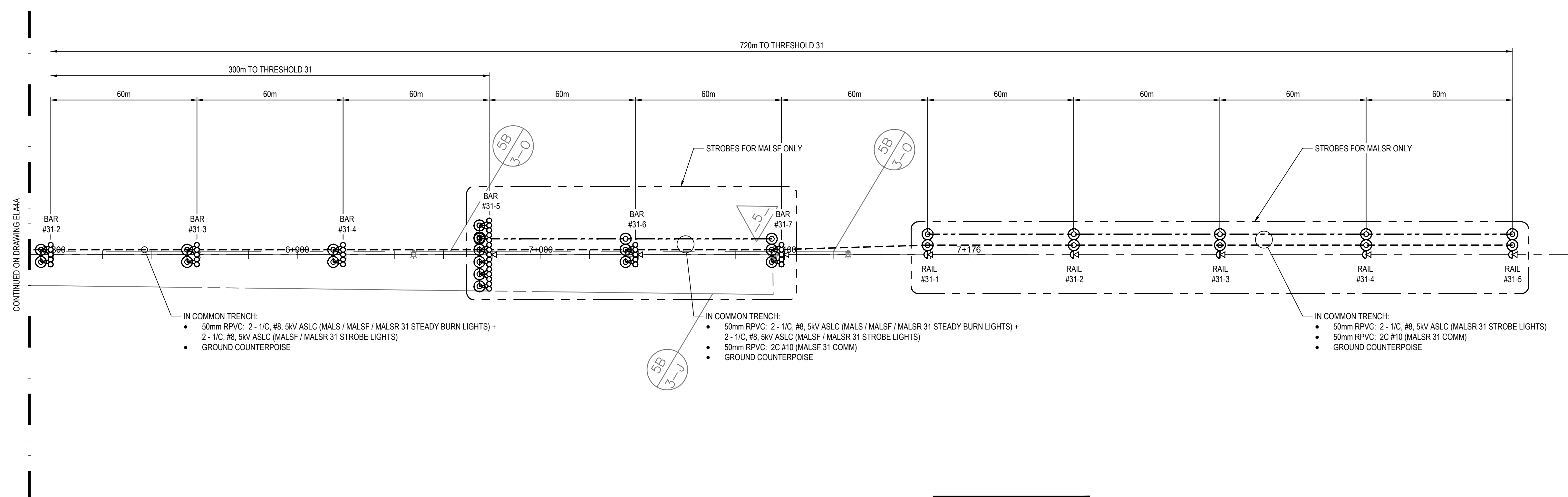
PROJECT NO : TRN.AIRP03390-02
 CONTRACT NO : N/A
 DRAFTING BY : KLL
 DESIGN BY : RG
 CHECKED BY : RG

ELECTRICAL LAYOUT SHEET 5 OF 5 OPTION #B: MALS 31 OPTION #C: MALSF 31 OPTION #D: MALS31

SHEET ID
ELA5B

50 mm

ISSUED FOR TENDER

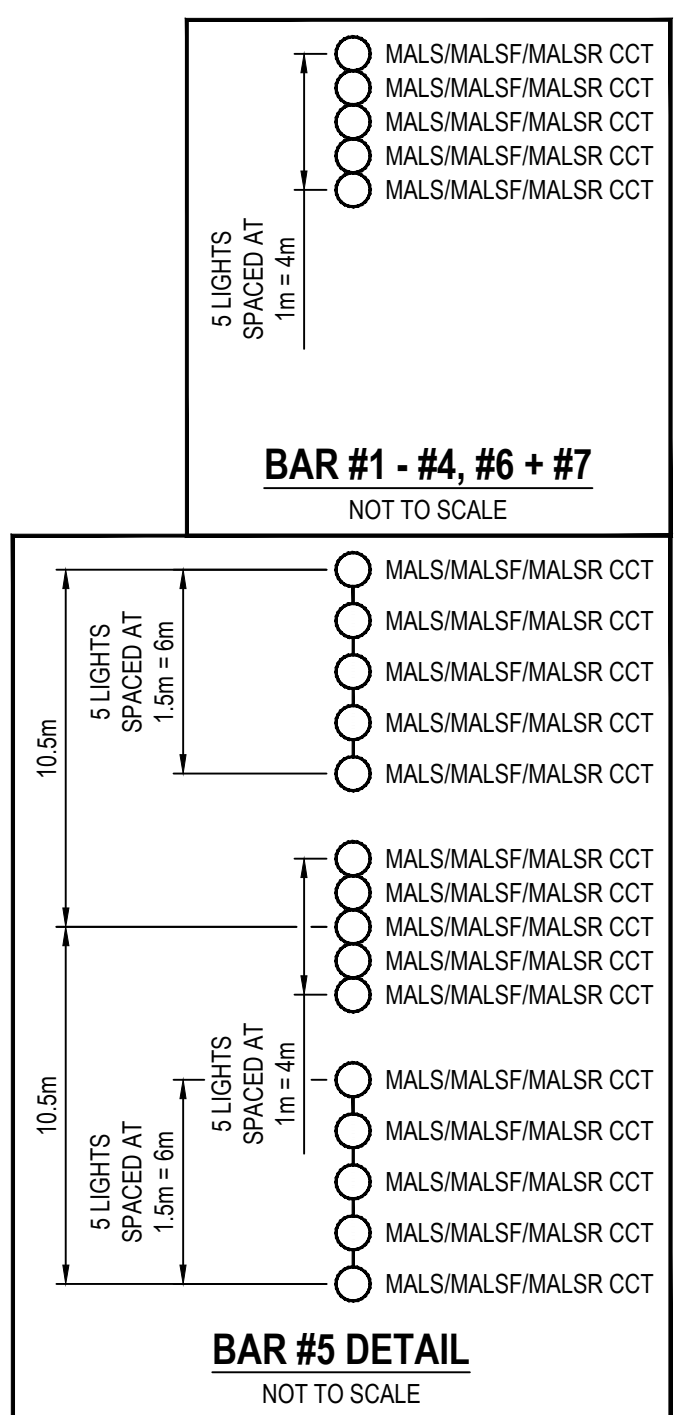
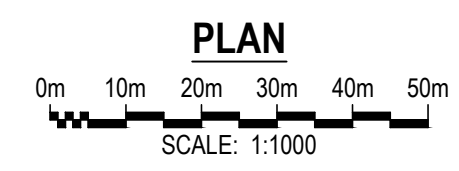


- IN COMMON TRENCH:
- 50mm RPVC; 2 - 1/C, #8, 5kV ASLC (MALS / MALSF / MALS31 STEADY BURN LIGHTS) + 2 - 1/C, #8, 5kV ASLC (MALSF / MALS31 STROBE LIGHTS)
 - GROUND COUNTERPOISE

RUNWAY 31 MALS INSTALLATION - OPTION #B RUNWAY 31 MALSF INSTALLATION - OPTION #C RUNWAY 31 MALS31 INSTALLATION - OPTION #D

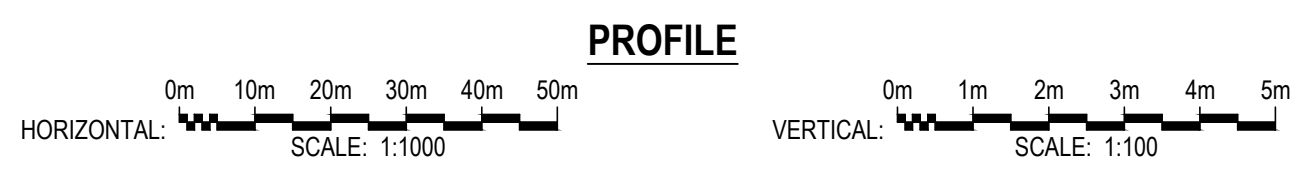
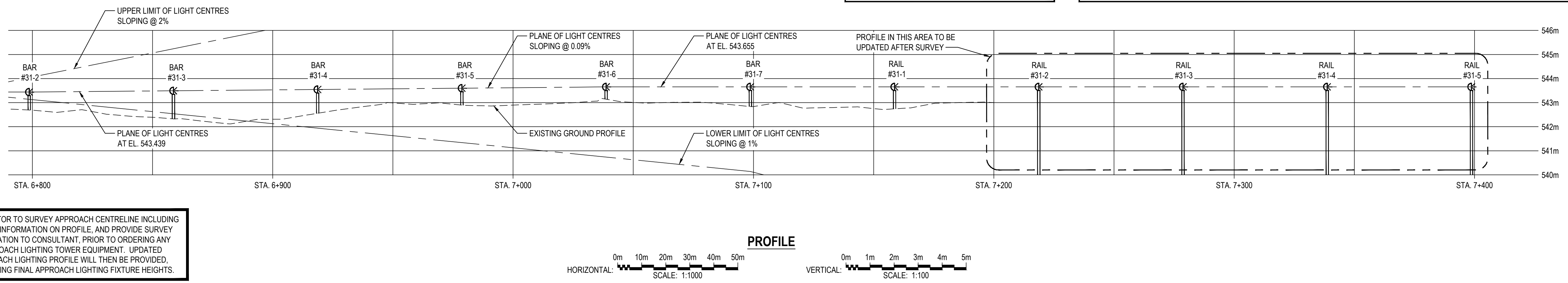
BAR/RAIL NO.	STATION	C/L LENS ELEV. (m)	HEIGHT A.F.G. (m)	GROUND ELEV. (m)	MOUNTING SUPPORT	NO. OF SUPPORTS	FIXTURE AIMING ANGLE (DEGREES)
THRESHOLD	6+678.770	-	-	543.089	-	-	-
BAR #31-1	6+738.770	543.439	0.425	543.014	CO-MOUNTED	-	-
BAR #31-2	6+798.770	543.439	0.745	542.694	CO-MOUNTED	-	-
BAR #31-3	6+858.770	543.493	1.168	542.325	TOWER MOUNTED	-	-
BAR #31-4	6+918.770	543.547	0.988	542.559	CO-MOUNTED	-	-
BAR #31-5	6+978.770	543.601	0.703	542.898	CO-MOUNTED	-	-
BAR #31-6	7+038.770	543.655	0.512	543.143	CO-MOUNTED	-	-
BAR #31-7	7+098.770	543.655	0.817	542.838	CO-MOUNTED	-	-
RAIL #31-1	7+158.770	543.655	0.911	542.744	CO-MOUNTED	-	-
RAIL #31-2	7+218.770	543.655	T.B.D.	T.B.D.	T.B.D.	-	-
RAIL #31-3	7+278.770	543.655	T.B.D.	T.B.D.	T.B.D.	-	-
RAIL #31-4	7+338.770	543.655	T.B.D.	T.B.D.	T.B.D.	-	-
RAIL #31-5	7+398.770	543.655	T.B.D.	T.B.D.	T.B.D.	-	-

- NOTES:
- RUNWAY CROWN ELEVATION AT RUNWAY 31 THRESHOLD = 543.089m.
 - UNITS LESS THAN 1.0m ABOVE GRADE TO BE CO-MOUNTED. UNITS MORE THAN 1.0m ABOVE GRADE TO BE TOWER MOUNTED.



LEGEND

- STAKE MOUNTED MEDIUM INTENSITY LED WHITE RUNWAY EDGE LIGHT
- STAKE MOUNTED MEDIUM INTENSITY LED WHITE / YELLOW RUNWAY EDGE LIGHT (WHITE TO FACE APPROACH)
- STAKE MOUNTED MEDIUM INTENSITY LED BLUE TAXIWAY EDGE LIGHT
- STAKE MOUNTED MEDIUM INTENSITY LED RED / GREEN RUNWAY END / THRESHOLD LIGHT (GREEN TO FACE APPROACH)
- STAKE MOUNTED MEDIUM INTENSITY LED GREEN RUNWAY THRESHOLD LIGHT
- ☼ OMNI-DIRECTIONAL APPROACH LIGHTING SYSTEM (ODALS)
- MEDIUM INTENSITY APPROACH LIGHTING SYSTEM STEADY BURN LIGHT (MALS / MALSF / MALS31)
- MEDIUM INTENSITY APPROACH LIGHTING SYSTEM STEADY BURN LIGHT WITH SEQUENCED FLASHING LIGHTS (MALSF)
- MEDIUM INTENSITY APPROACH LIGHTING SYSTEM STROBE LIGHT (MALS31)
- △ PRECISION APPROACH PATH INDICATOR (PAPI)
- ☼ ILLUMINATED WINDSOCK
- ☼ RUNWAY GUARD LIGHT (RGL)
- ☼ RETRO REFLECTOR EDGE MARKING
- 31-13 A TAXIWAY HOLD SIGN
- ← A RUNWAY EXIT SIGN
- APRON I ↑ APRON TURN-OFF SIGN
- MF 122.2 MANDATORY FREQUENCY SIGN
- PULLPIT
- PULLPIT LID (INSTALLED ON EXISTING PULLPIT)
- POWER CABLE / CONDUIT AS NOTED
- COMM CABLE / CONDUIT AS NOTED



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PLOT DATE: 2022/01/13 AT 15:11:45 PLOTTED BY: KLL
CADD FILE: ELA1-ELA5.DWG [ELA5B]

CONSULTANTS



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SEALS / STATUS



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RUNWAY 13-31, TAXIWAY A AND APRON I REHABILITATION

QUESNEL AIRPORT
QUESNEL, BC

MARK	DESCRIPTION	DATE	APP'D
2	ISSUED FOR TENDER	2022/01/13	RG
1	ISSUED FOR 100% REVIEW	2021/12/22	RG
0	ISSUED FOR 90% REVIEW	2021/10/27	RG

PROJECT NO : TRN.AIRP03390-02

CONTRACT NO : N/A

DRAFTING BY : KLL

DESIGN BY : RG

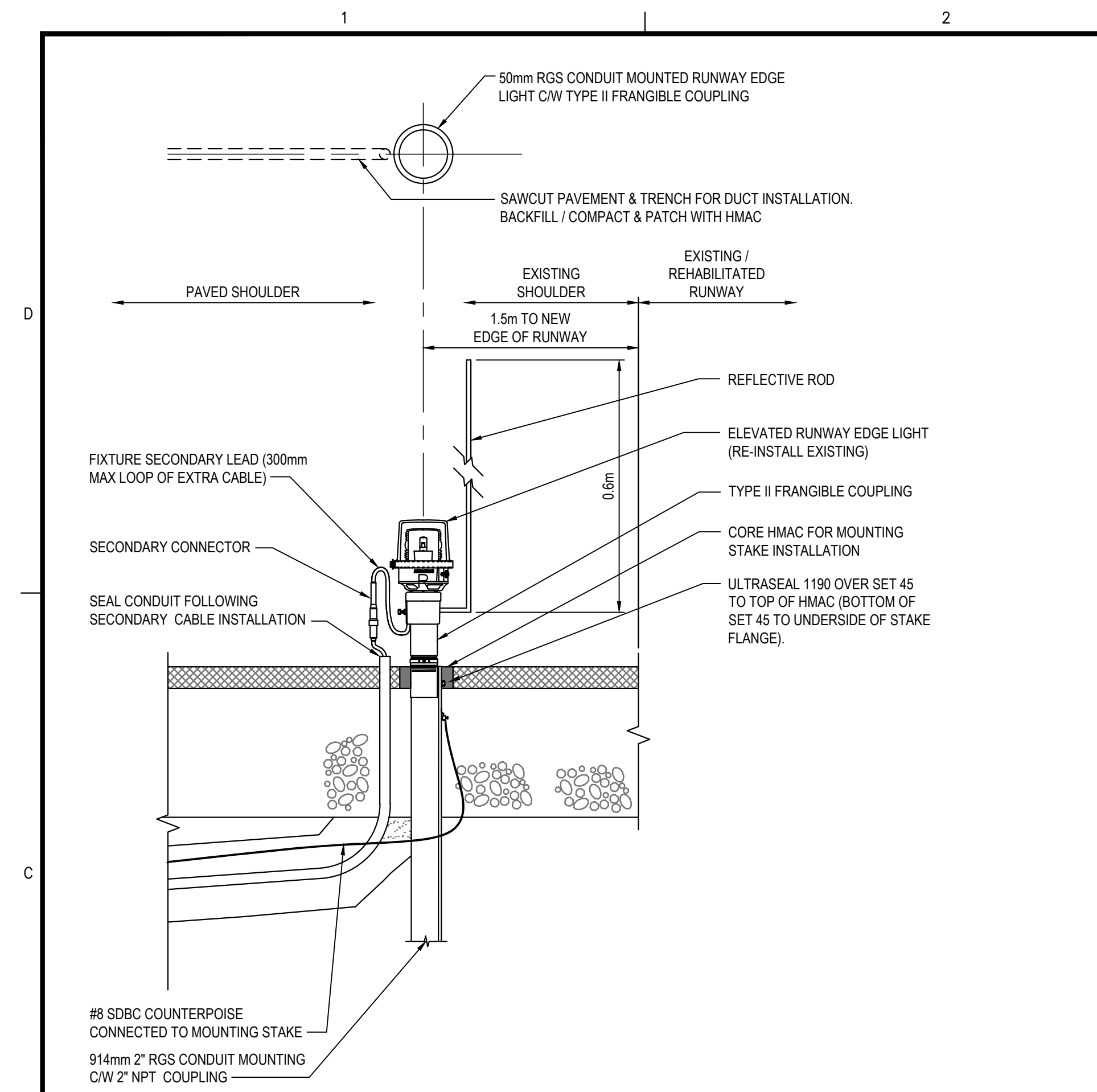
CHECKED BY : RG

ELECTRICAL DETAILS SHEET 1 OF 6

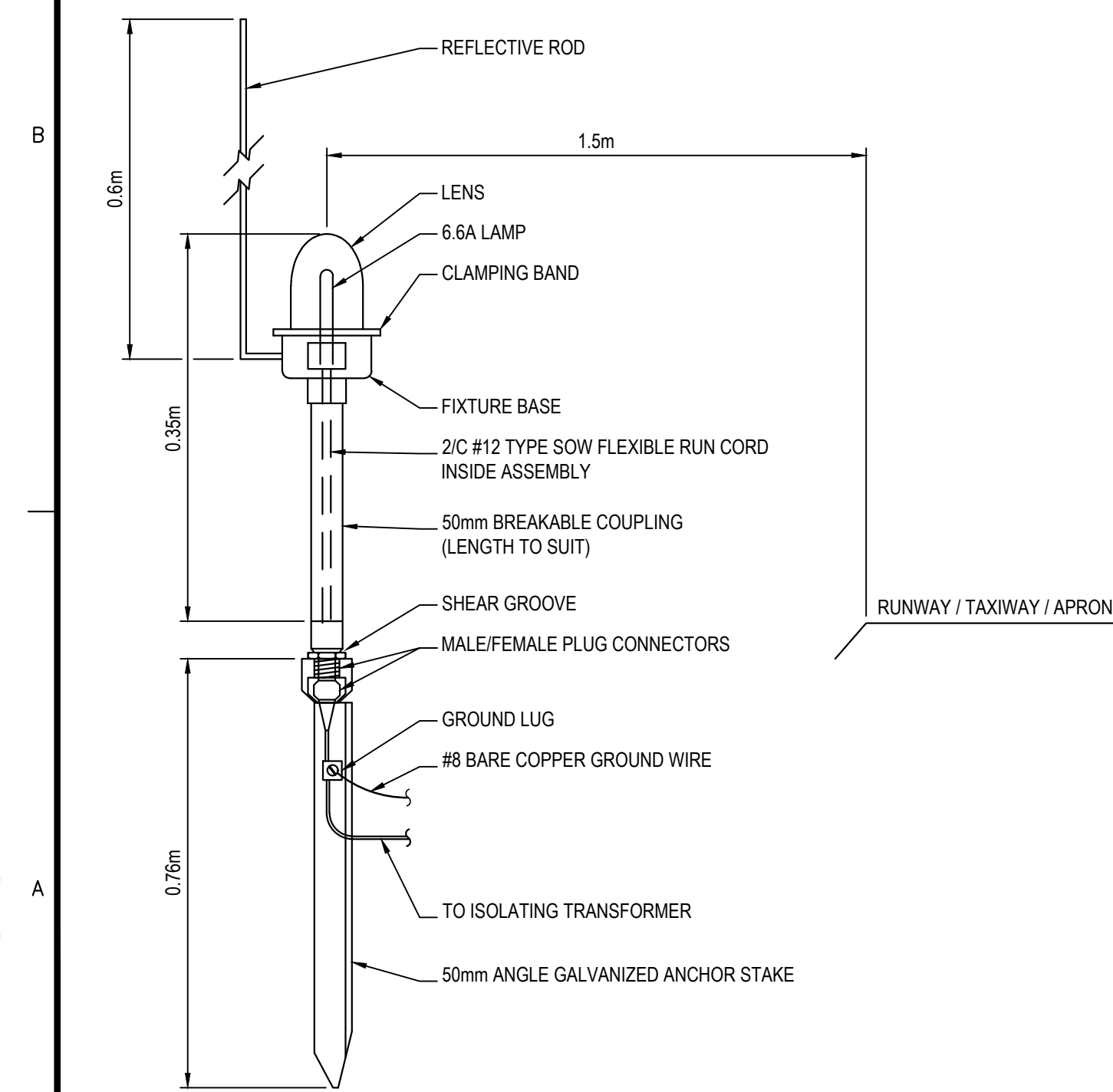
SHEET ID
EDE1

50 mm

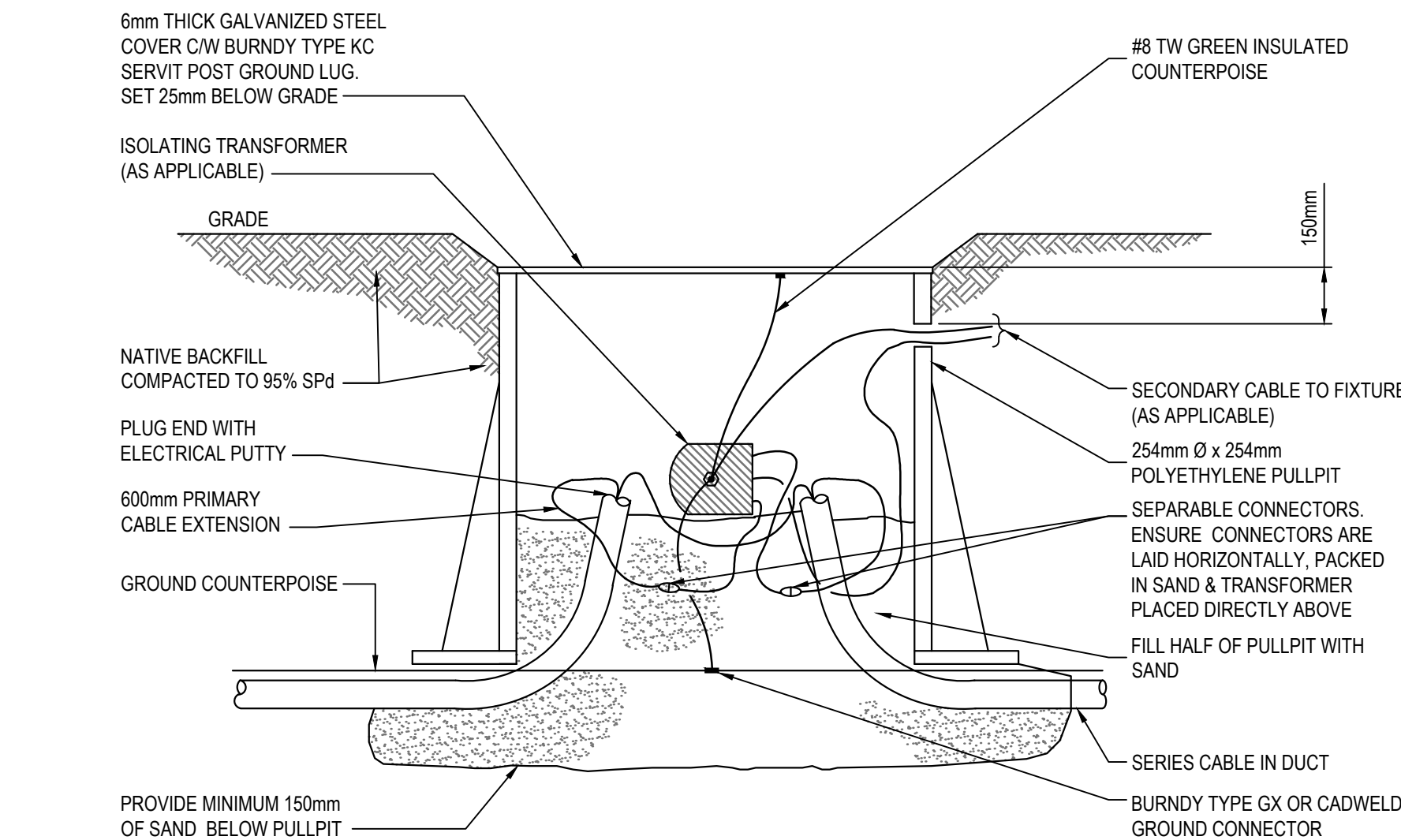
ISSUED FOR TENDER



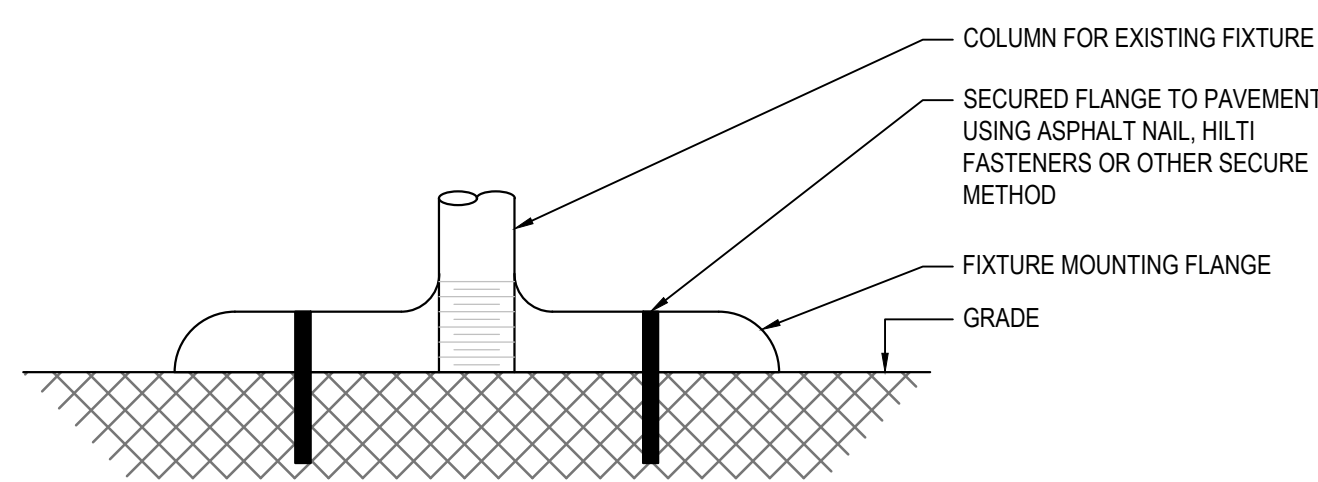
RUNWAY EDGE LIGHT INSTALLATION



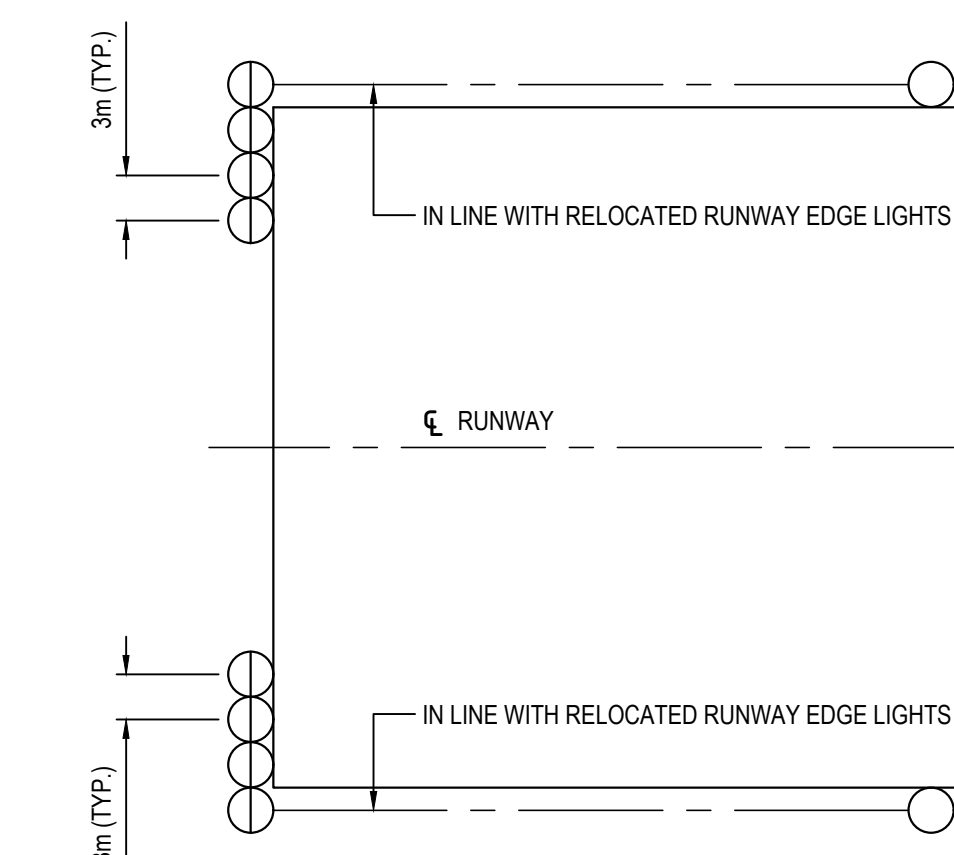
TAXIWAY EDGE LIGHT INSTALLATION



TYPICAL PULLPIT DETAIL



TEMPORARY RELOCATED EDGE LIGHT / THRESHOLD / END LIGHT FIXTURE MOUNTING DETAIL



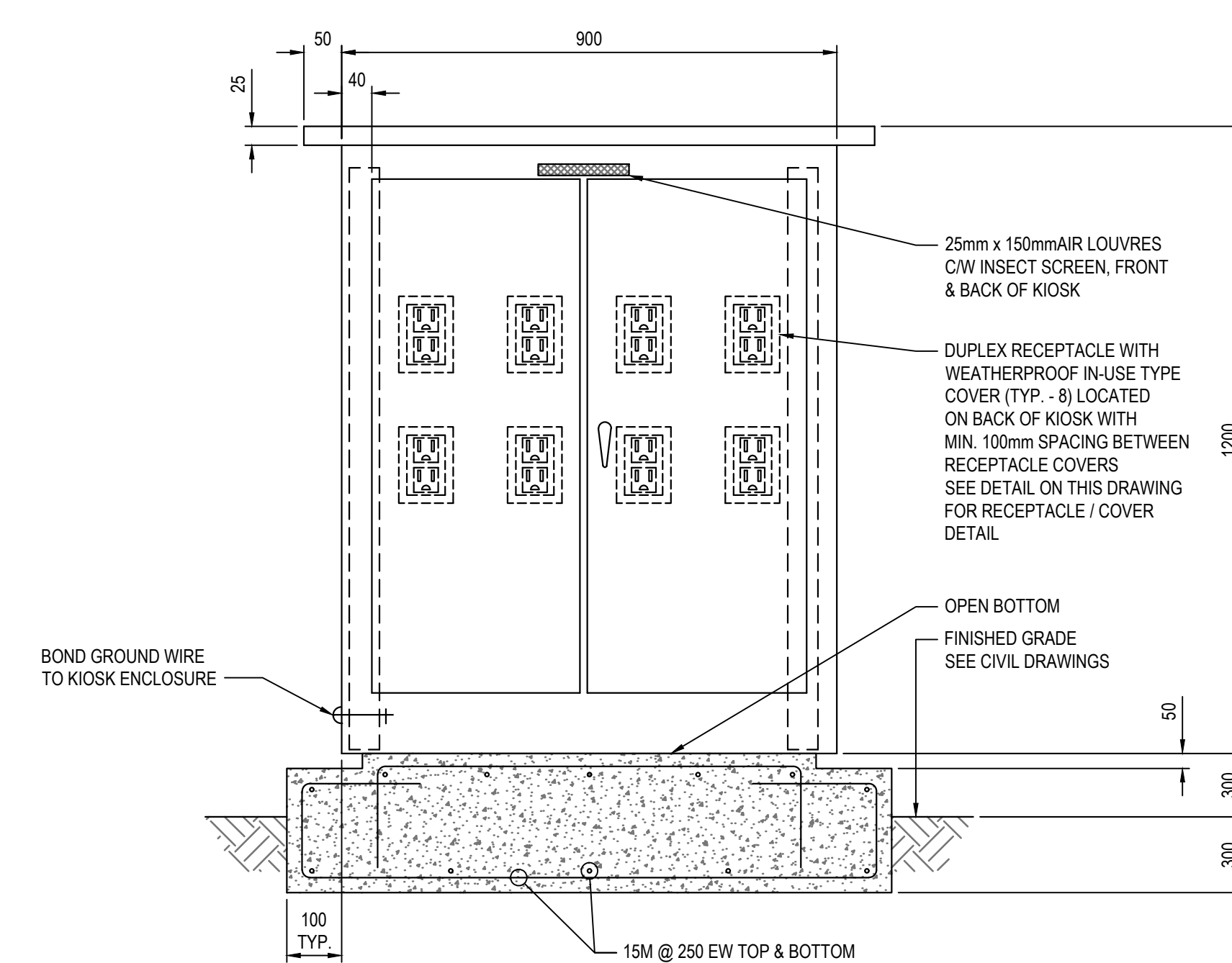
NOTES:

- RELOCATE EXISTING THRESHOLD / END LIGHTS TO TEMPORARY LOCATION. MOUNT FIXTURES ON TEMPORARY FIXTURE MOUNTING FLANGE.
- RELOCATE TRANSFORMERS, AS REQUIRED, AND CONNECT TO PRIMARY CIRCUIT (EXISTING / RELOCATED).
- PROVIDE SECONDARY EXTENSIONS TO EACH FIXTURE FROM TRANSFORMERS (2C #12 OR 2C #10 FOR LONGER SECONDARIES, AS REQUIRED).
- RUN SECONDARY CABLES ABOVE GRADE IN POLYTUBE / CONDUIT, HELD IN PLACE BY SAND BAGS, OTHER MEANS. USE MARKER TAPE TO IDENTIFY POLYTUBE / CONDUITS AND PROTECT DURING CONSTRUCTION.
- TEST OPERATION OF RELOCATED FIXTURES.
- RELOCATE / REMOVE / REINSTALL AS REQUIRED TO FACILITATE CONSTRUCTION ACTIVITIES.

RELOCATED THRESHOLD / END LIGHTS



DUPLEX RECEPTACLE WITH WEATHERPROOF IN-USE TYPE COVER



PARKING RECEPTACLES KIOSK ENCLOSURE

NOTES:

- KIOSK TO BE NEMA 4, ALUMINUM, INSULATED, C/W GASKETTED DOORS. THE STRUCTURE SHALL BE FREESTANDING AND CAPABLE OF WITHSTANDING WIND, SNOW AND ICE LOADING IN ACCORDANCE WITH BUILDING CODE. ARRANGEMENT OF DOORS AND JAMB SHALL ALLOW UNOBSTRUCTED ACCESS TO ELECTRICAL EQUIPMENT IN THE ENCLOSURE. DOOR JAMB MUST NOT PREVENT OPENING OF THE HINGED DOORS OF THE ELECTRICAL EQUIPMENT.
- THE KIOSK SHALL INCLUDE INTERNAL THERMOSTAT(S) AND HEATER(S) TO MAINTAIN AN ADEQUATE OPERATING TEMPERATURE FOR INTERNAL ELECTRONICS AND TO KEEP THE INTERNAL ENVIRONMENT DRY.
- THE KIOSK SHALL INCLUDE INTERNAL LIGHTING AND CONVENIENCE RECEPTACLES.
- THE KIOSK IS TO BE DOUBLE SIDED AND HAS SEPARATE SECTIONS / SIDES (FRONT AND BACK) FOR 347 / 600V AND 120 / 208V.
- PROVIDE NAME PLATES ON EACH SIDE FOR 347 / 600V AND 120 / 208V SERVICE. REVIEW NAME PLATES WITH OWNER / CONSULTANT PRIOR TO INSTALLATION.
- PROVIDE MINIMUM 4 - 50mm RPVC CONDUIT STUBS (SPARE - FOR FUTURE USE) FROM 120 / 208V SIDE, AND 2 - 50mm RPVC CONDUIT STUBS (SPARE - FOR FUTURE USE) FROM 347 / 600V SIDE.
- KIOSK BASE DESIGN IS SCHEMATIC.

CONSULTANTS



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SEALS / STATUS



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RUNWAY 13-31, TAXIWAY A AND APRON I REHABILITATION

QUESNEL AIRPORT
QUESNEL, BC

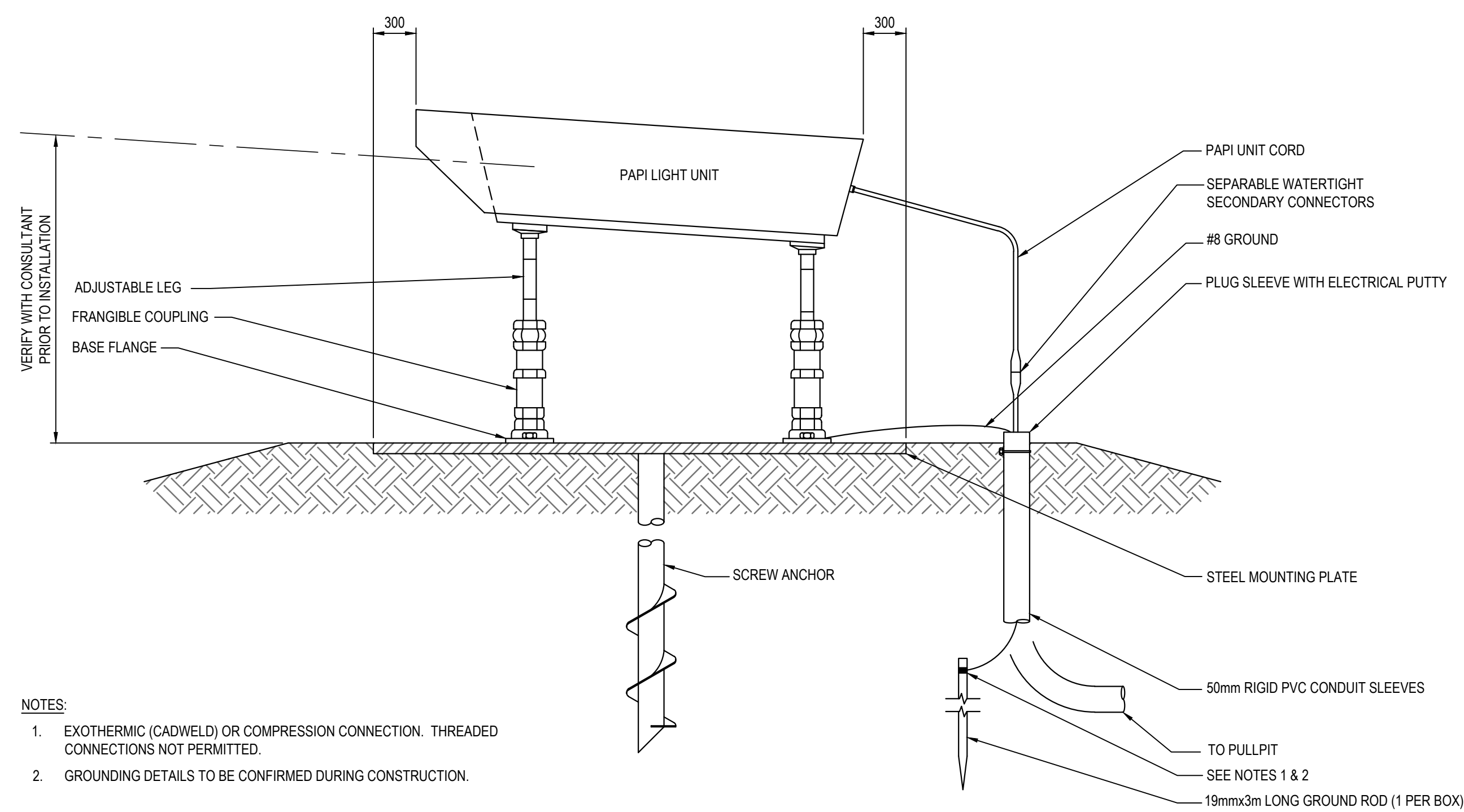
MARK	DESCRIPTION	DATE	APP'D
2	ISSUED FOR TENDER	2022/01/13	RG
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0	ISSUED FOR 90% REVIEW	2021/10/27	RG

PROJECT NO :	TRN.AIRP03390-02
CONTRACT NO :	N/A
DRAFTING BY :	KLL
DESIGN BY :	RG
CHECKED BY :	RG

ELECTRICAL DETAILS SHEET 2 OF 6

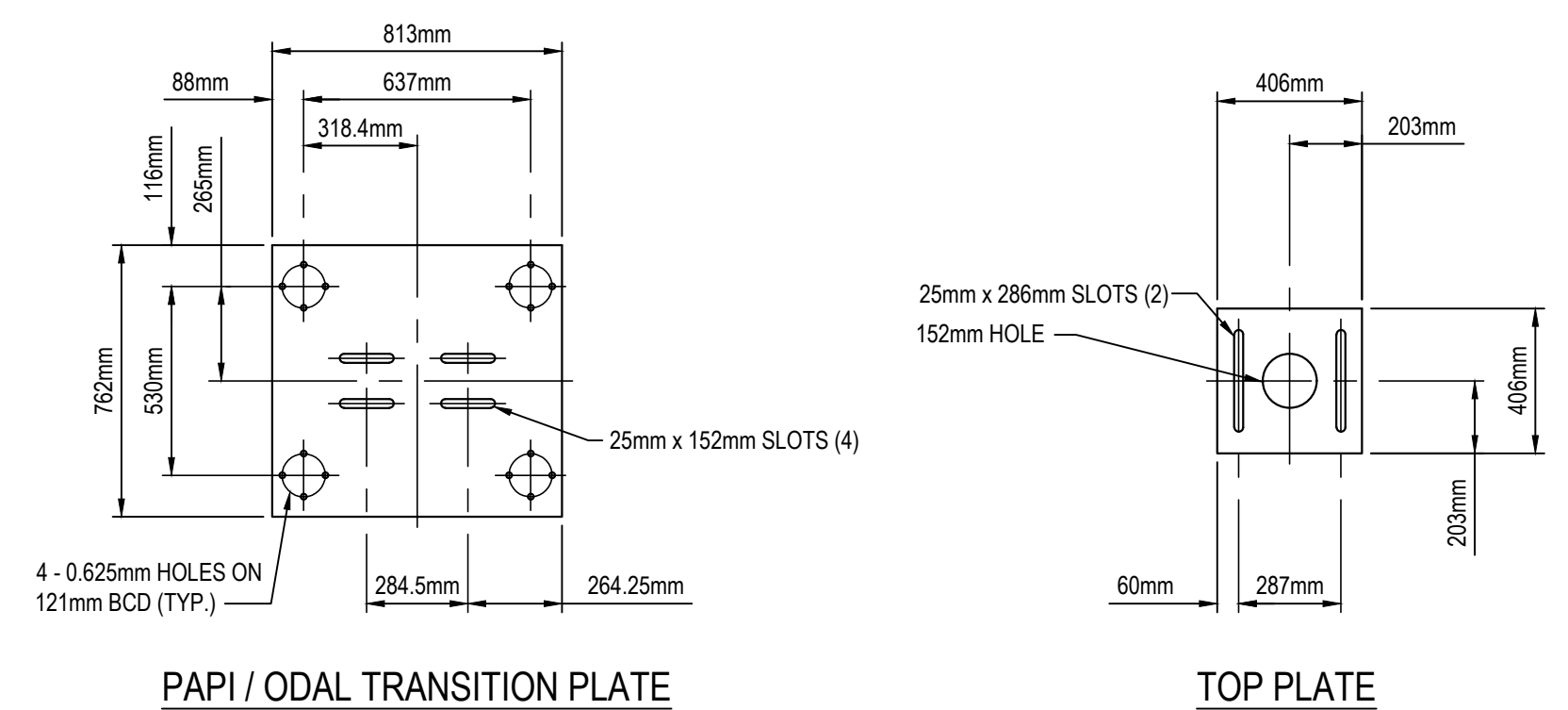
SHEET ID
EDE2

ISSUED FOR TENDER



- NOTES:
- EXOTHERMIC (CADWELD) OR COMPRESSION CONNECTION. THREADED CONNECTIONS NOT PERMITTED.
 - GROUNDING DETAILS TO BE CONFIRMED DURING CONSTRUCTION.

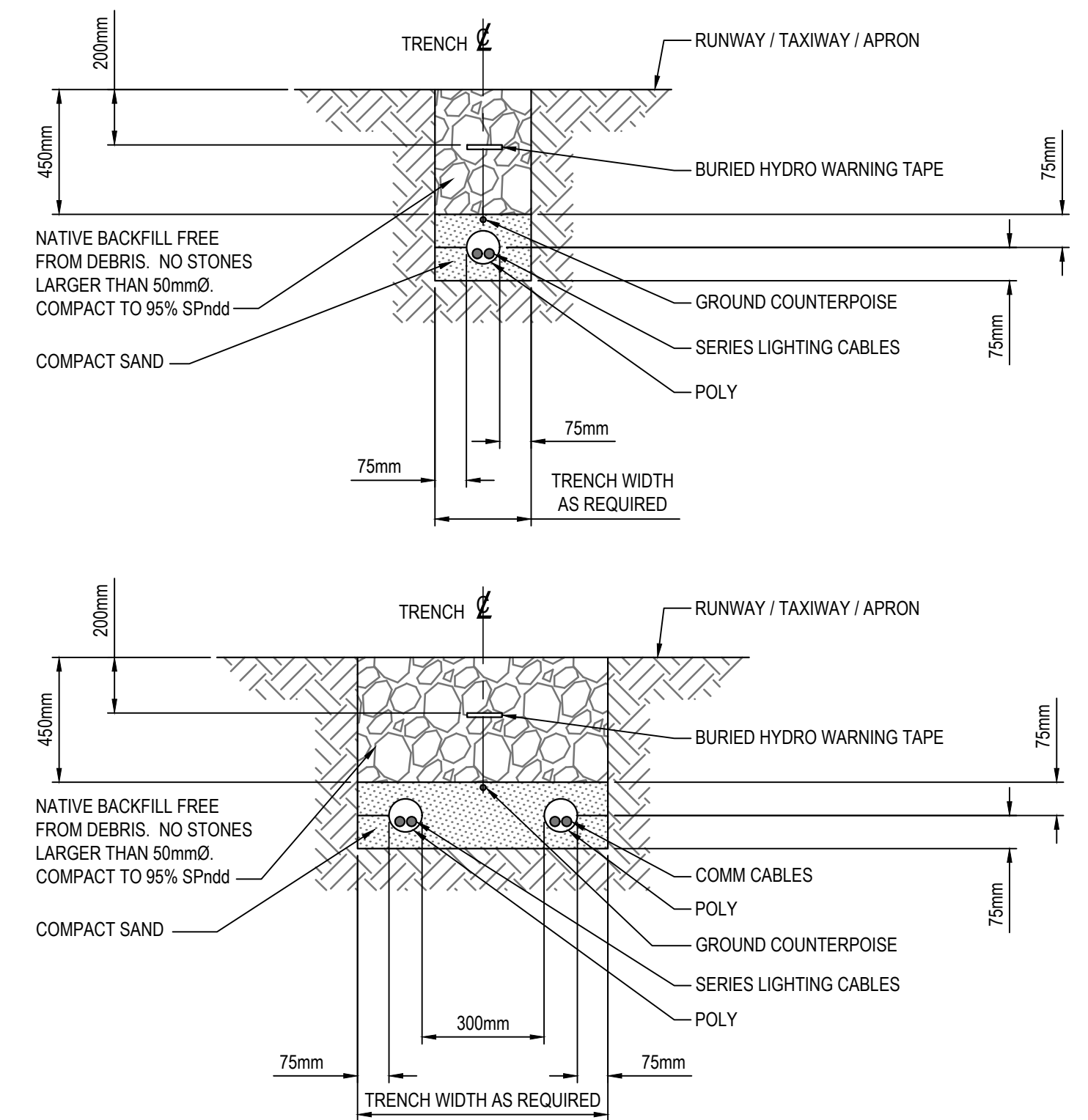
PAPI UNIT INSTALLATION FOR UNIT D ONLY



NOTE: AS REQUIRED, SUPPLY & INSTALL NEW PAPI / ODAL TRANSITION PLATE. DIMENSIONS ABOVE ARE SCHEMATIC & CONTRACTOR IS TO VERIFY ACTUAL PAPI / ODAL TRANSITION PLATE / MOUNTING BASE / TOP PLATE DIMENSIONS / DETAILS.

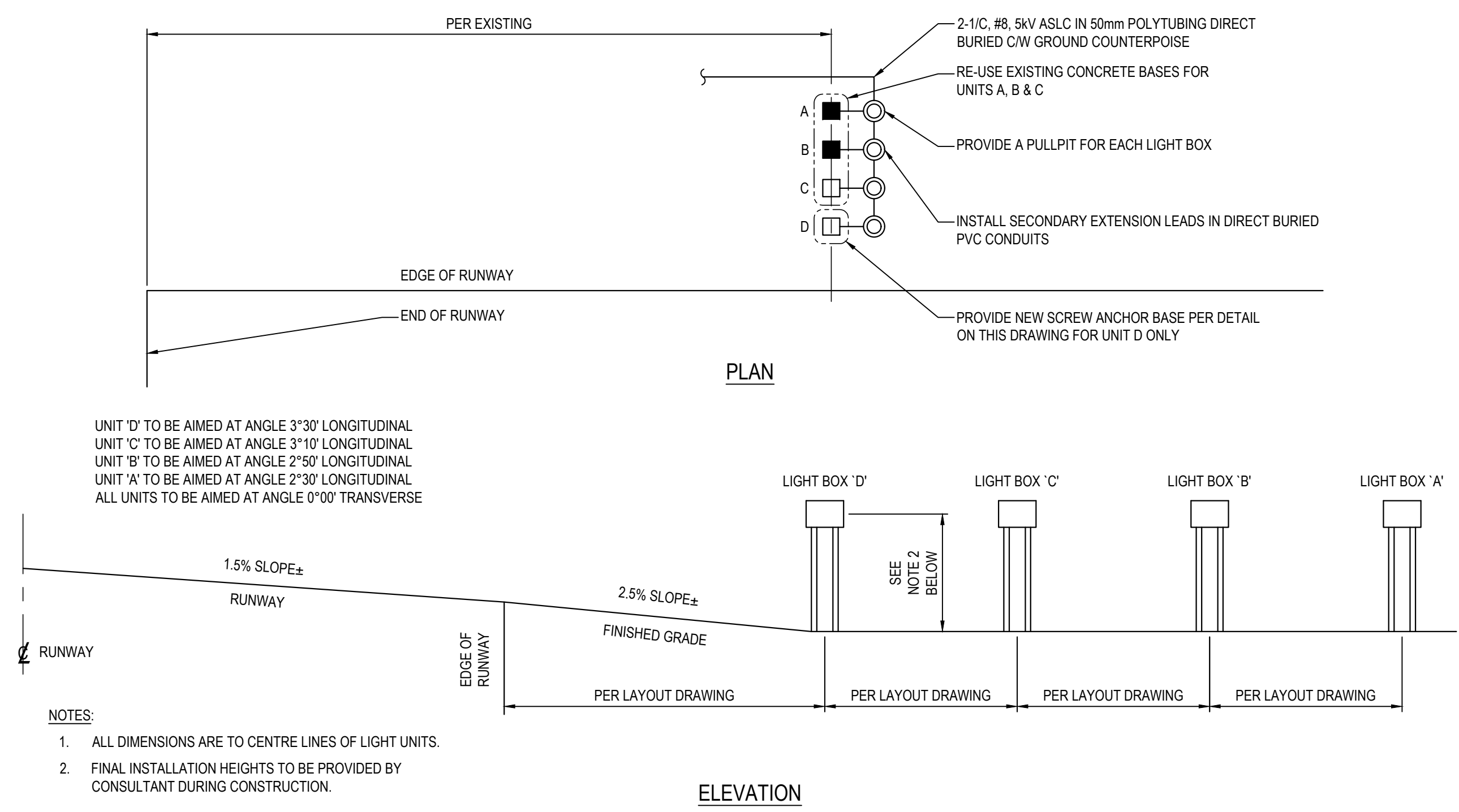
- NOTES:
- TRANSITION PLATE TO BE HOT DIPPED GALVANIZED STEEL WITH THICKNESS OF 12.5mm.
 - TOP PLATE TO BE HOT DIPPED GALVANIZED STEEL WITH THICKNESS OF 12.5mm.
 - FOUNDATION ANCHOR TO BE 6.1m LONG 150mm SCHEDULE 40 PIPE C/W 287mm HELIX AND 32mm x 32mm SQUARE STARTER POINT 150mm LONG, HOT DIPPED GALVANIZED AFTER WELDING.

PAPI / ODAL BASE DETAIL



- NOTES:
- MAINTAIN 75mm SPACING BETWEEN POWER DUCTS IN COMMON TRENCH.
 - MAINTAIN 300mm SPACING BETWEEN POWER AND COMMUNICATIONS DUCTS IN COMMON TRENCH.

TRENCH PROFILE



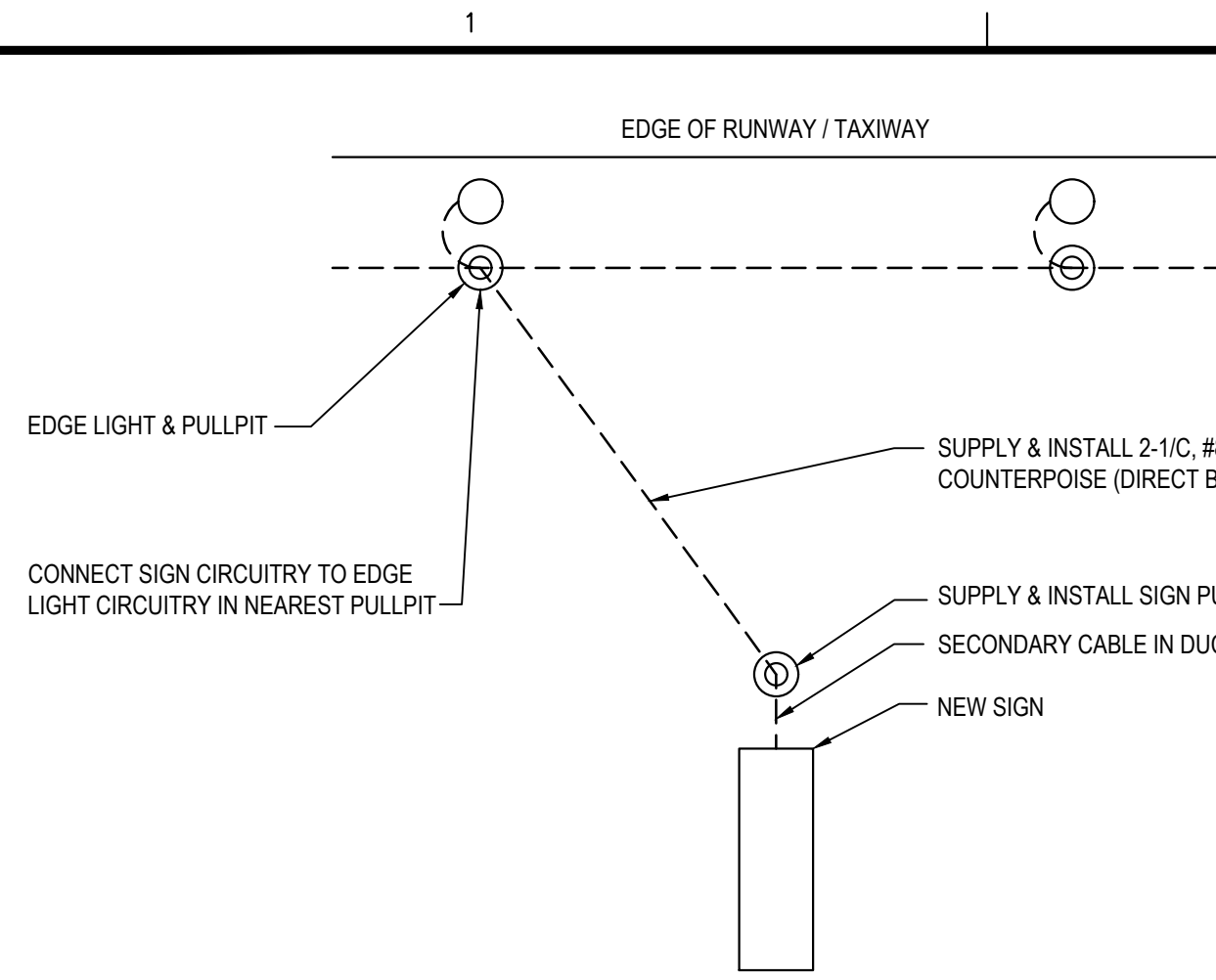
- NOTES:
- UNIT 'D' TO BE AIMED AT ANGLE 3°30' LONGITUDINAL
 - UNIT 'C' TO BE AIMED AT ANGLE 3°10' LONGITUDINAL
 - UNIT 'B' TO BE AIMED AT ANGLE 2°50' LONGITUDINAL
 - UNIT 'A' TO BE AIMED AT ANGLE 2°30' LONGITUDINAL
 - ALL UNITS TO BE AIMED AT ANGLE 0°00' TRANSVERSE

- NOTES:
- ALL DIMENSIONS ARE TO CENTRE LINES OF LIGHT UNITS.
 - FINAL INSTALLATION HEIGHTS TO BE PROVIDED BY CONSULTANT DURING CONSTRUCTION.

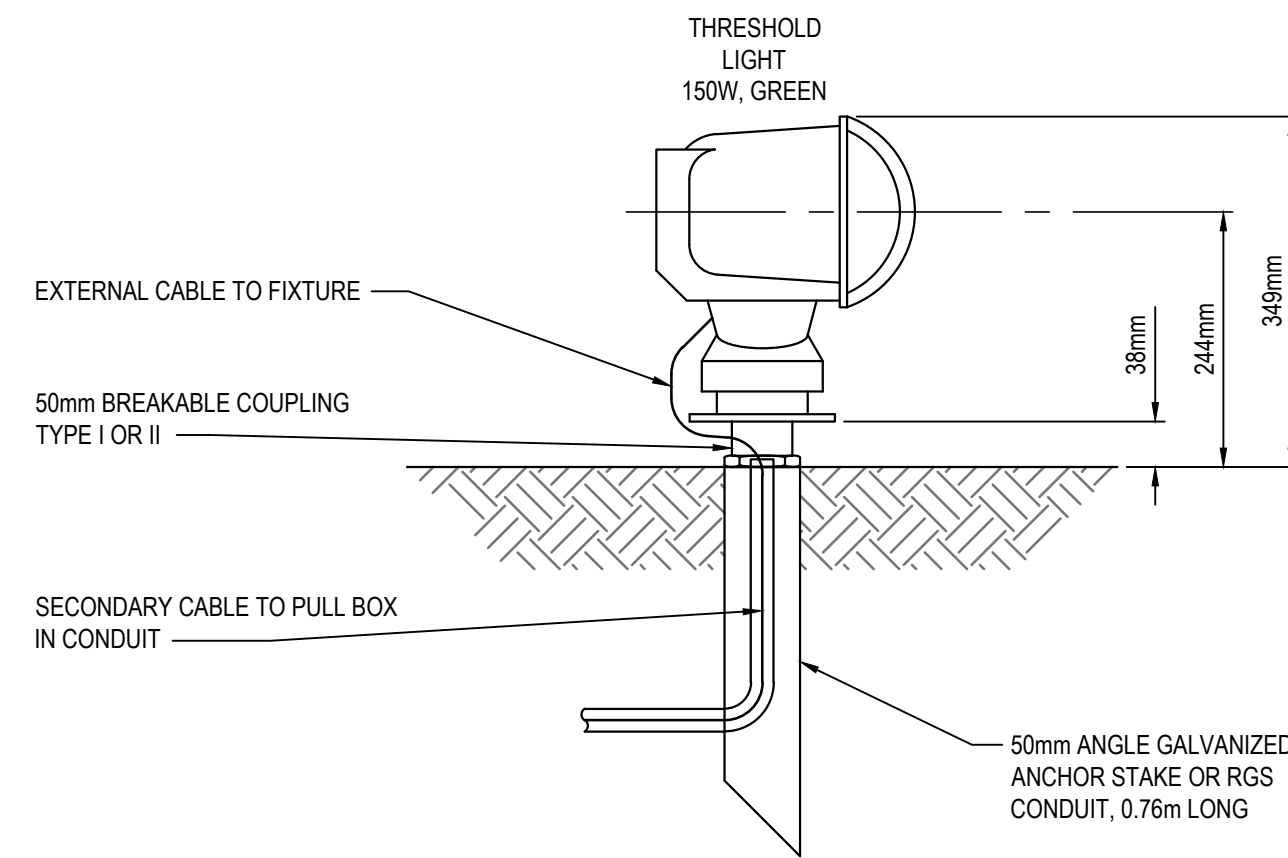
PAPI UNIT LAYOUT DETAIL

PLOT DATE: 2022/01/13 AT 15:11:47 PLOTTED BY: KLL
CADD FILE: EDE1-EDE6.DWG [EDE2]

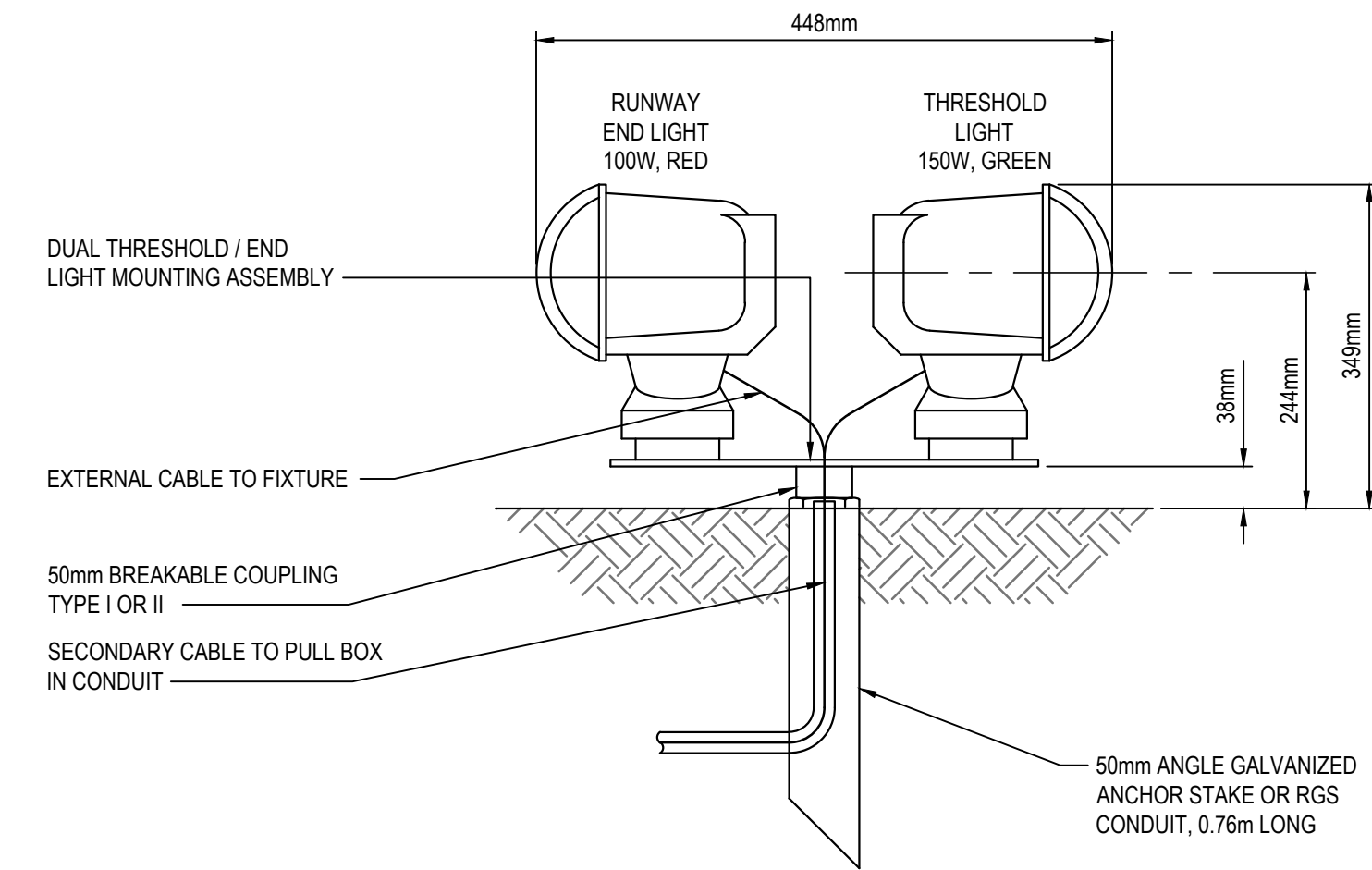
PLOT DATE: 2022/01/13 AT 15:11:48 PLOTTED BY: KLL
 CADD FILE: EDE1-EDE6.DWG [EDE3]



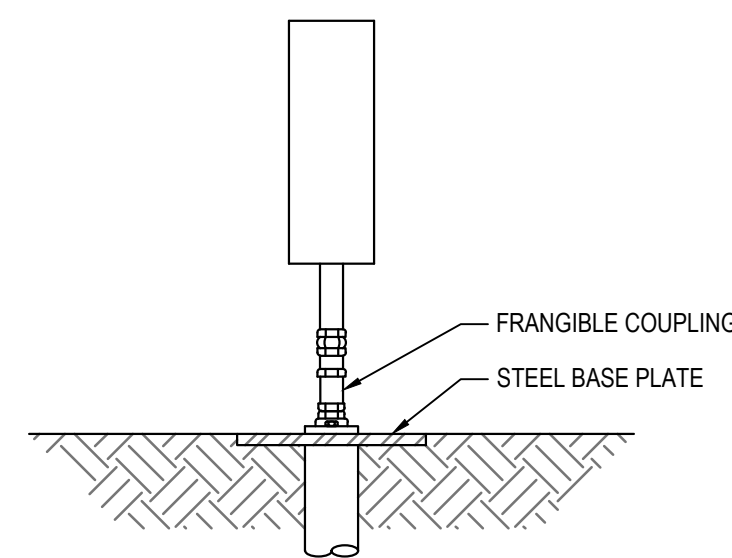
TYPICAL SIGN INSTALLATION (PLAN VIEW)



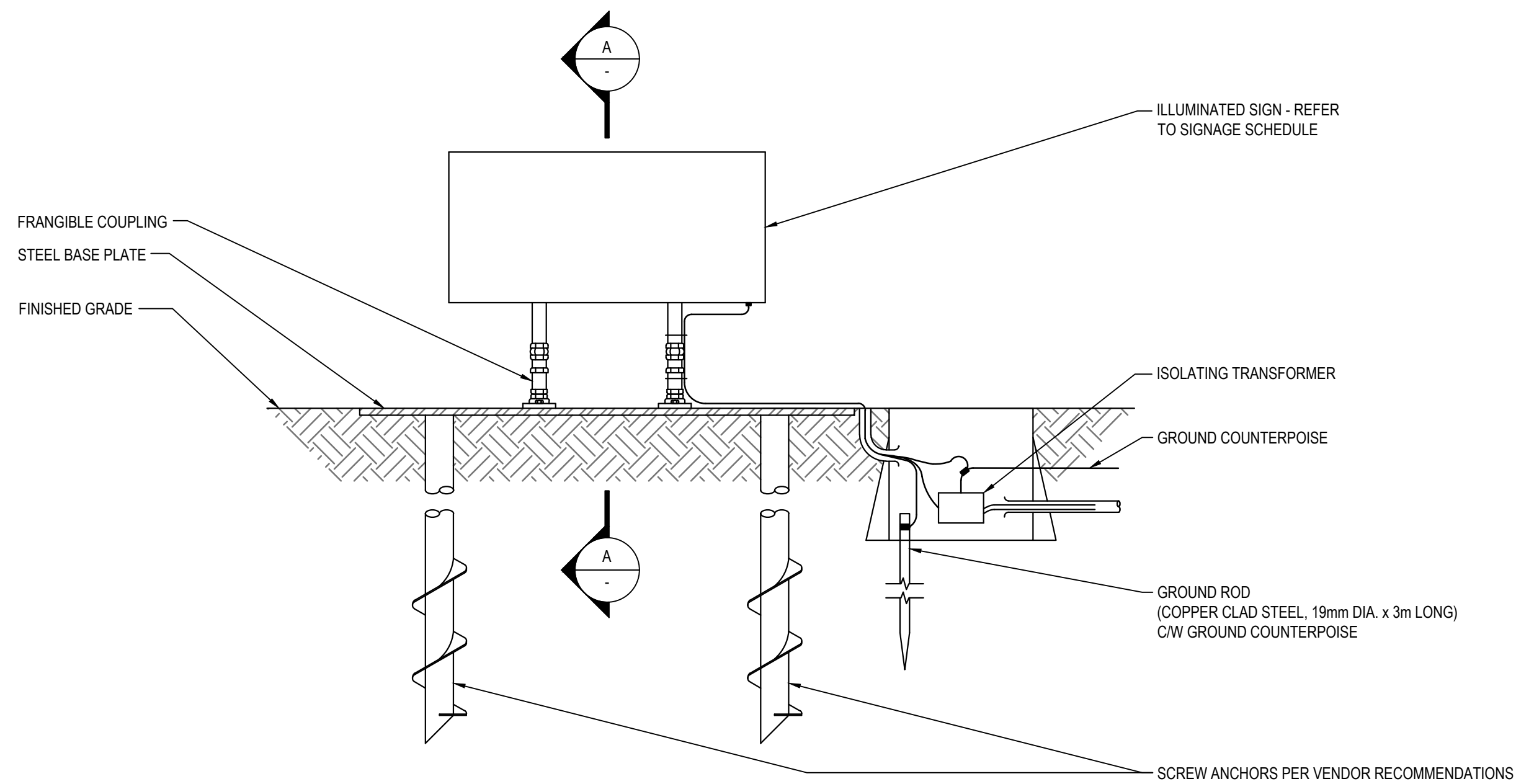
RUNWAY THRESHOLD APPROACH LIGHT FIXTURE MOUNTING



DUAL RUNWAY END APPROACH LIGHT FIXTURE MOUNTING

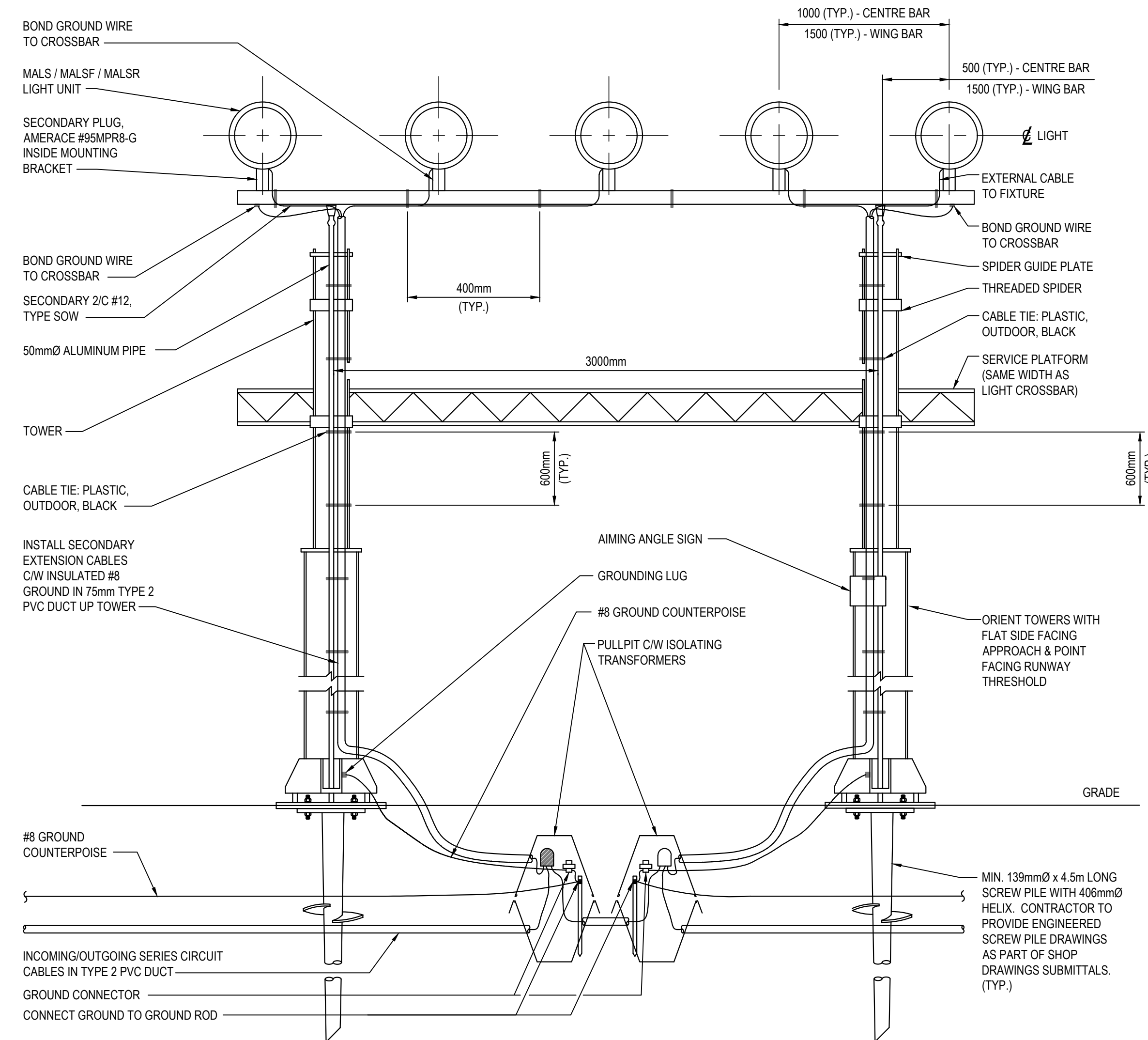


SECTION A-A



ELEVATION

AIRFIELD GUIDANCE SIGN



NOTES:

- REFER TO PROFILE FOR REQUIRED HEIGHT.
- TOWERS TO BE USED FOR LIGHTS GREATER THAN 1.0m ABOVE GRADE.
- ALL STRUCTURES TO BE SUITABLE FOR "CLIMB-TO-SERVICE" AND COME WITH SERVICE PLATFORM.
- PULLPITS TO BE BEHIND (ON RUNWAY SIDE) LIGHT BAR.

MALS / MALSF / MALSRS STEADY BURN LIGHTS ON LATTICE TOWERS



CONSULTANTS



GENERAL NOTES:

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- ALL AIRPORT SURFACES TO BE KEPT CLEAN OF CONSTRUCTION DEBRIS AND FOD. CLEAN SURFACES OF CONSTRUCTION DEBRIS AND FOD AS REQUIRED.
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 - CANADIAN ELECTRICAL CODE, C22.1 (LATEST EDITION)
 - TP 312, 5th EDITION
- REFER TO ELECTRICAL SPECIFICATIONS FOR FURTHER EQUIPMENT / INSTALLATION REQUIREMENTS.

SEALS / STATUS



GIBBINGS CONSULTING LTD. PERMIT TO PRACTICE 1001372



RUNWAY 13-31, TAXIWAY A AND APRON I REHABILITATION

QUESNEL AIRPORT QUESNEL, BC

MARK	DESCRIPTION	DATE	APP'D
2	ISSUED FOR TENDER	2022/01/13	RG
1	ISSUED FOR 100% REVIEW	2021/12/22	RG
0	ISSUED FOR 90% REVIEW	2021/10/27	RG

PROJECT NO : TRN.AIRP03390-02

CONTRACT NO : N/A

DRAFTING BY : KLL

DESIGN BY : RG

CHECKED BY : RG

ELECTRICAL DETAILS SHEET 3 OF 6

SHEET ID
EDE3

50 mm

ISSUED FOR TENDER

PLOT DATE: 2022/01/13 AT 15:11:49 PLOTTED BY: KLL
 CADD FILE: EDET-EDE6.DWG [EDE4]

CONSULTANTS



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**RUNWAY 13-31,
 TAXIWAY A AND APRON I
 REHABILITATION**

**QUESNEL AIRPORT
 QUESNEL, BC**

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PROJECT NO : TRN.AIRP03390-02

CONTRACT NO : N/A

DRAFTING BY : KLL

DESIGN BY : RG

CHECKED BY : RG

**ELECTRICAL DETAILS
 SHEET 4 OF 6**

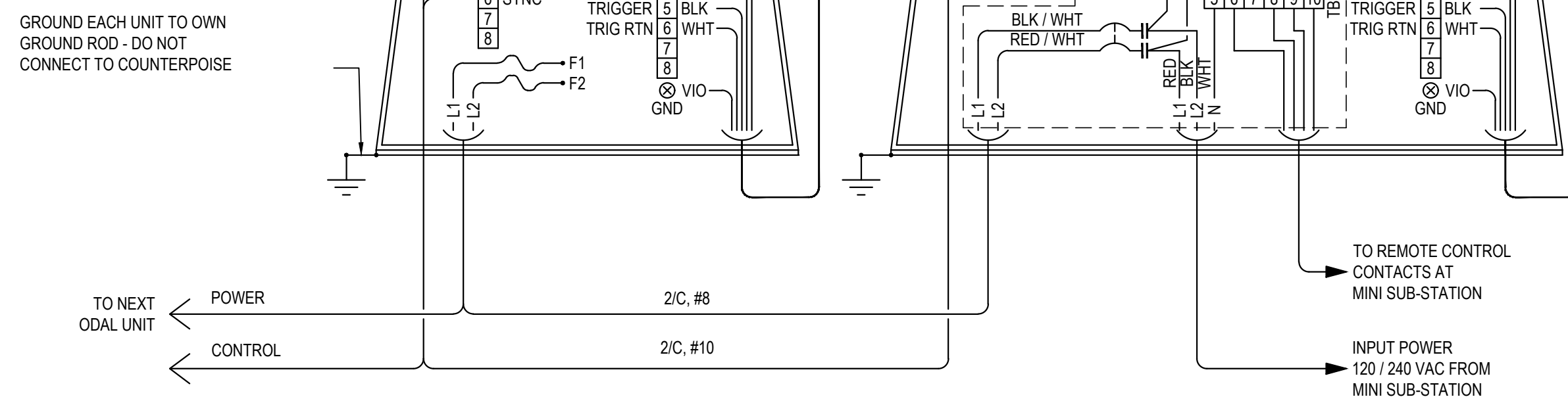
SHEET ID
EDE4

ISSUED FOR TENDER

NOTES:

- EQUIPMENT IS PHASE SENSITIVE - ALL UNITS TO BE WIRED THE SAME WAY.
- INDIVIDUAL ADJUSTMENTS MAY BE REQUIRED FOR EACH BRIGHTNESS LEVEL.

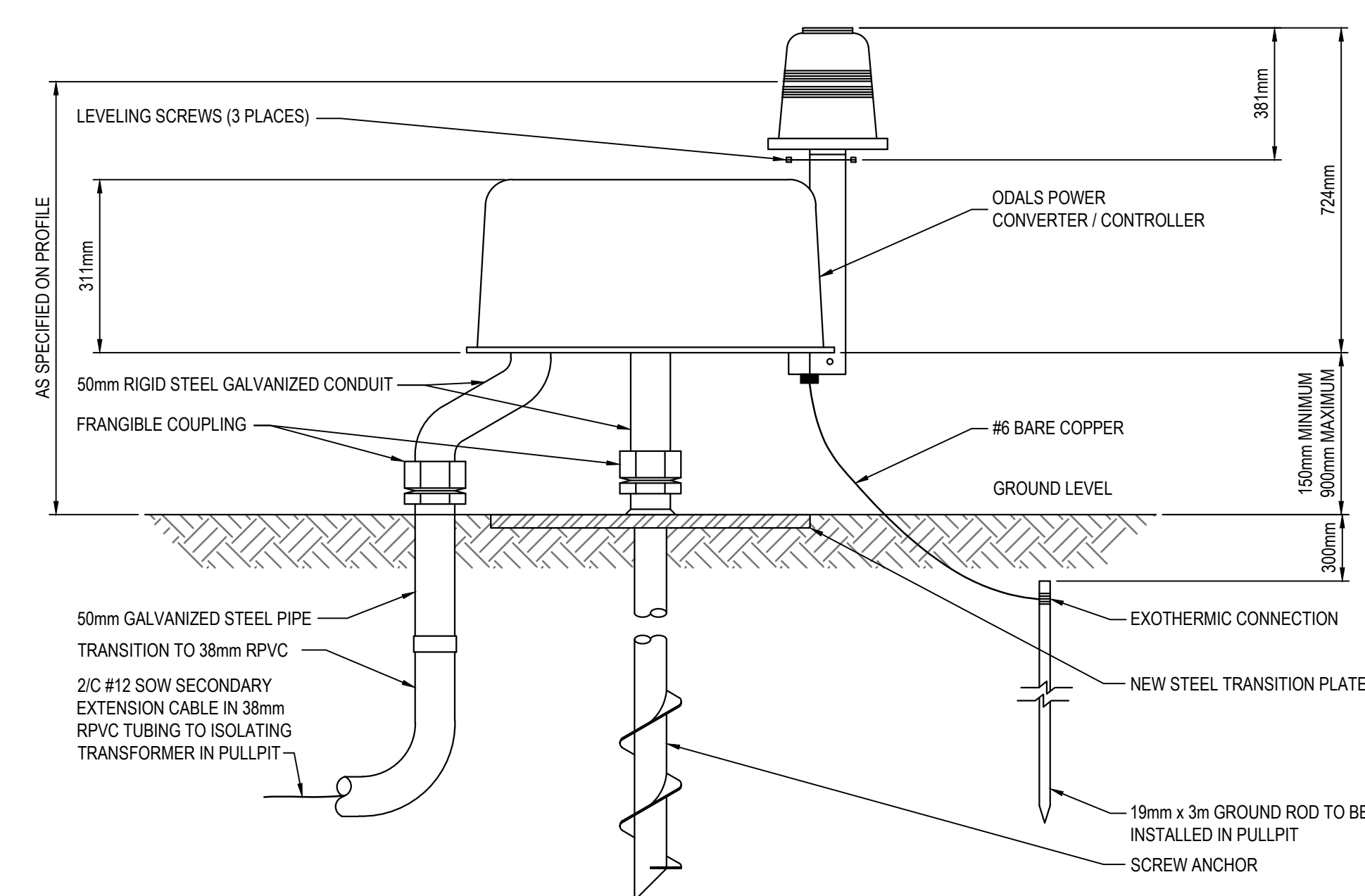
GROUND EACH UNIT TO OWN GROUND ROD - DO NOT CONNECT TO COUNTERPOISE



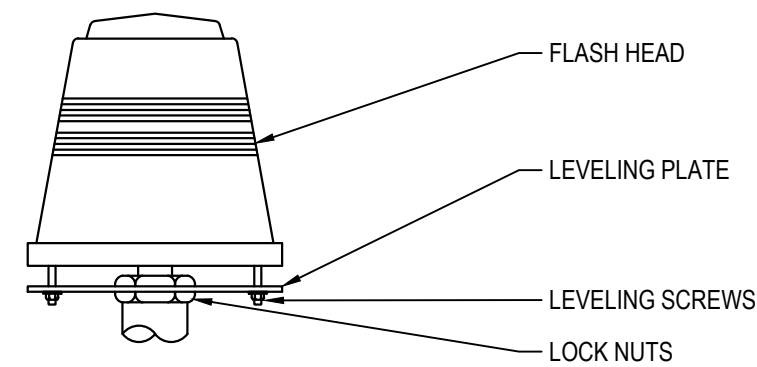
TB201 INPUT	HIGH	MEDIUM	LOW	OFF
TO TERMINAL 10	120 VAC	OPEN	OPEN	OPEN
TO TERMINAL 9	NOTE 1	120 VAC	OPEN	OPEN
TO TERMINAL 8	NOTE 1	NOTE 1	120 VAC	OPEN

NOTE 1: DOES NOT MATTER - 120 VAC OR OPEN

ODAL FLASH HEAD CONNECTION SCHEMATIC (FTS 430 SYSTEM)

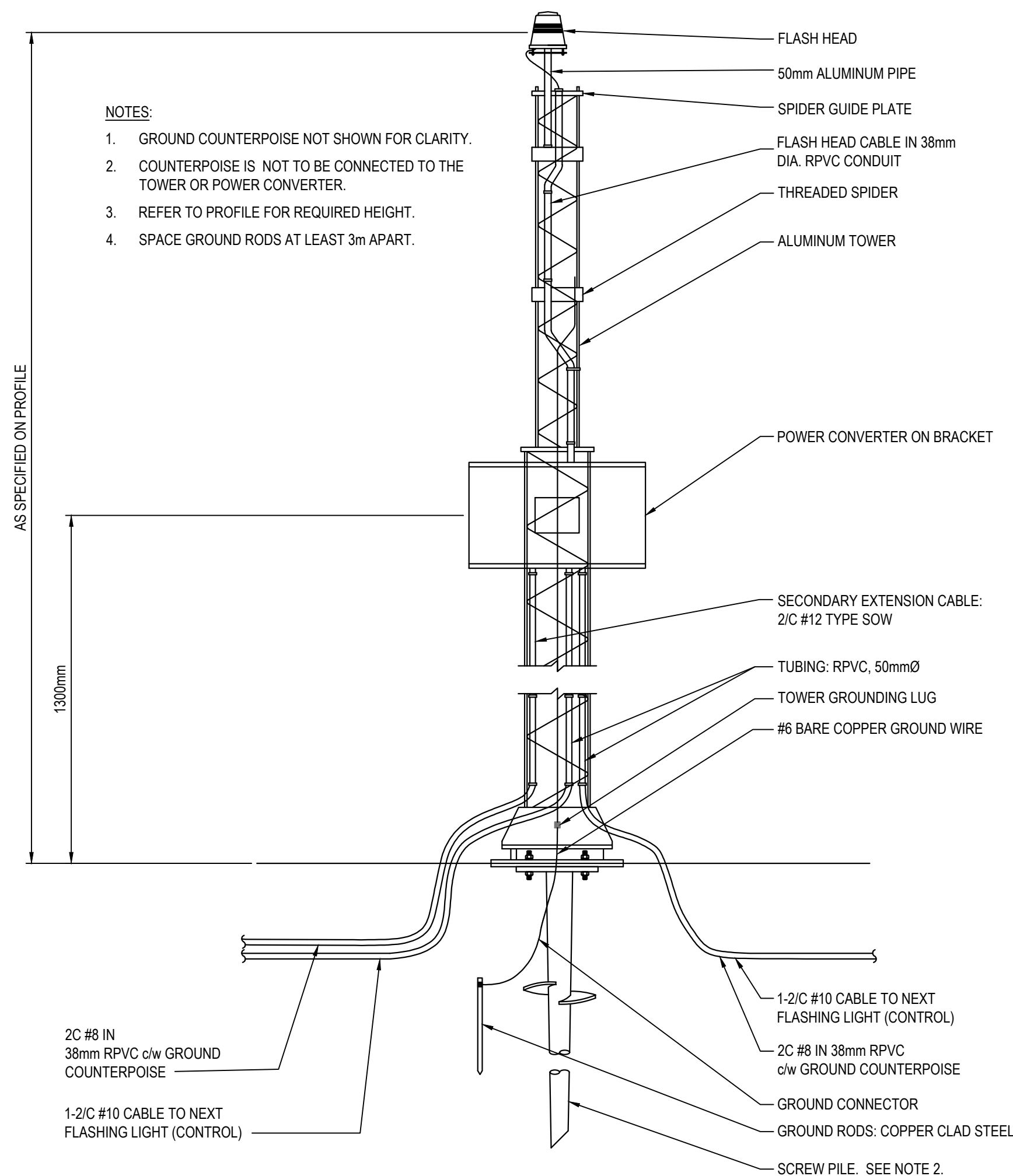


CO-MOUNTED ODALS FLASH HEAD AND POWER CONVERTER / CONTROLLER



NOTES:

- GROUND COUNTERPOISE NOT SHOWN FOR CLARITY.
- COUNTERPOISE IS NOT TO BE CONNECTED TO THE TOWER OR POWER CONVERTER.
- REFER TO PROFILE FOR REQUIRED HEIGHT.
- SPACE GROUND RODS AT LEAST 3m APART.



ODAL FLASH HEAD LIGHT UNIT ON ALUMINUM TOWER

NOTES:

- REFER TO PROFILE FOR REQUIRED HEIGHT.
- MIN. 139mmØ x 4.5m LONG SCREW PILE WITH 406mmØ HELIX. CONTRACTOR TO PROVIDE ENGINEERED SCREW PILE DRAWINGS AS PART OF SHOP DRAWINGS SUBMITTALS.

CONSULTANTS



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GIBBINGS CONSULTING LTD. PERMIT TO PRACTICE 1001372



**RUNWAY 13-31,
TAXIWAY A AND APRON I
REHABILITATION**

QUESNEL AIRPORT
QUESNEL, BC

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PROJECT NO : TRN.AIRP03390-02

CONTRACT NO : N/A

DRAFTING BY : KLL

DESIGN BY : RG

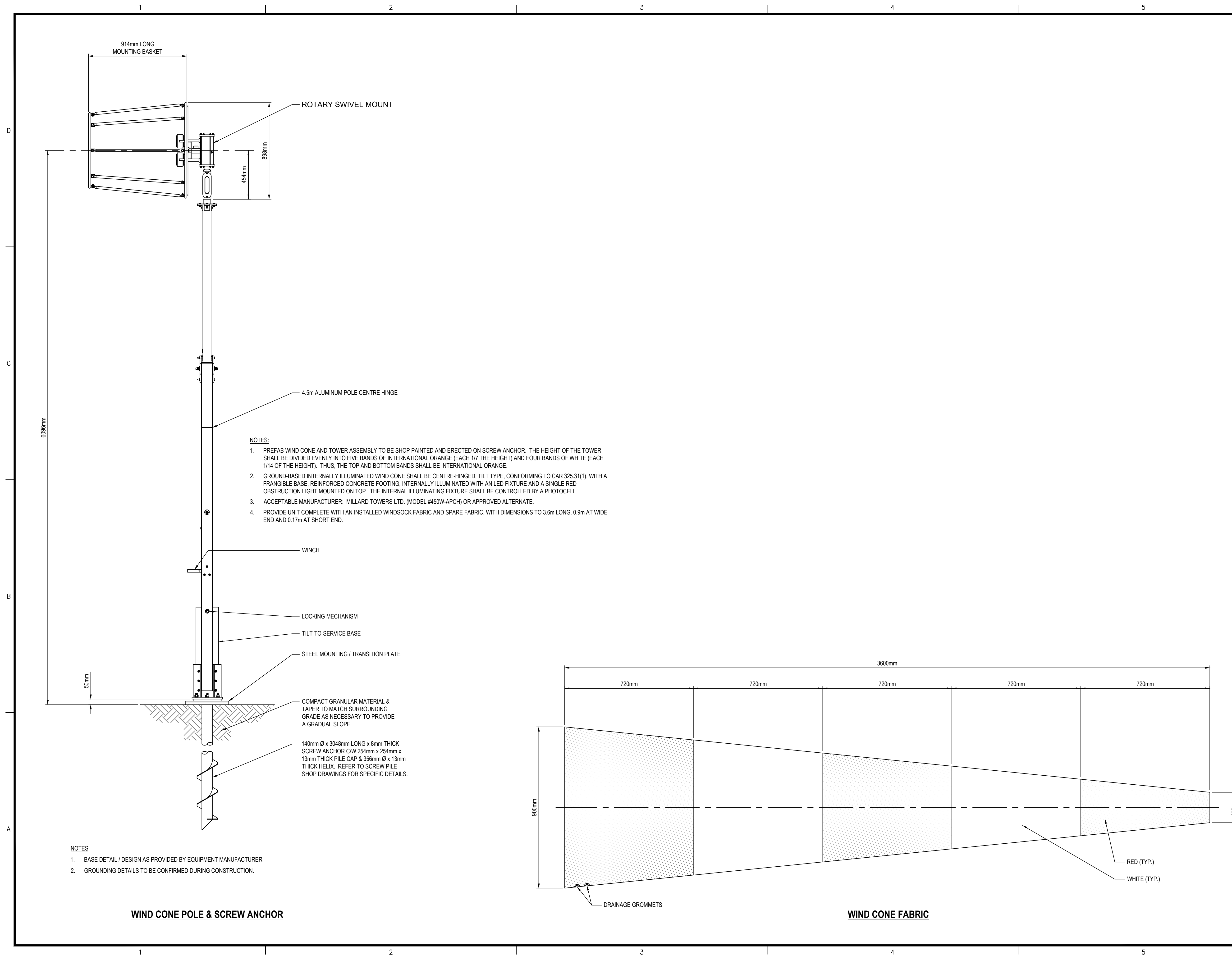
CHECKED BY : RG

**ELECTRICAL DETAILS
SHEET 5 OF 6**

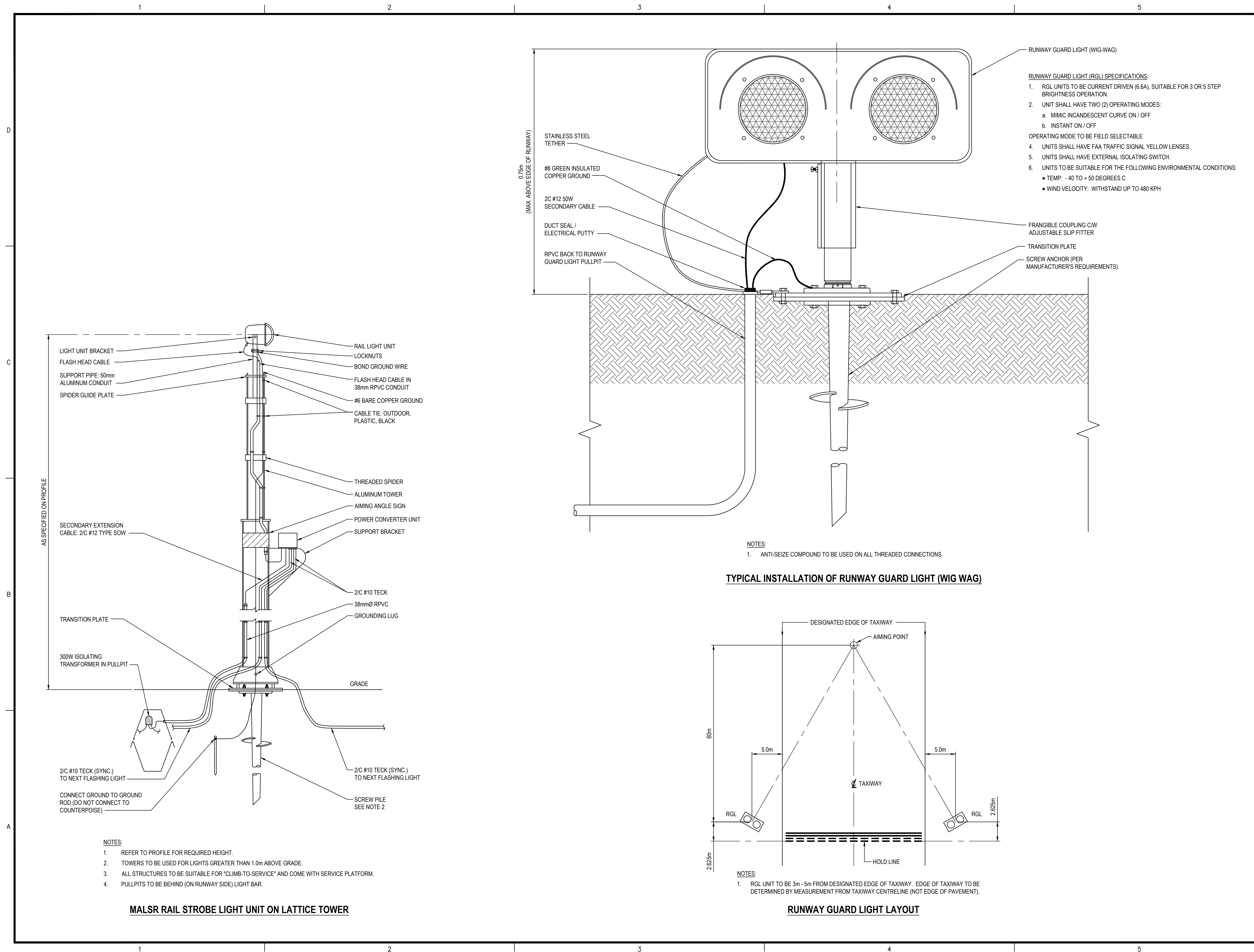
SHEET ID
EDE5

50 mm

ISSUED FOR TENDER



PLOT DATE: 2022/01/13 AT 15:11:50 PLOTTED BY: KLL
 CADD FILE: EDE6-DWG [EDE6]



CONSULTANTS



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**RUNWAY 13-31,
 TAXIWAY A AND APRON I
 REHABILITATION**

QUESNEL AIRPORT
 QUESNEL, BC

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0	ISSUED FOR 100% REVIEW	2021/12/22	RG

MARK	DESCRIPTION	DATE	APP'D

PROJECT NO : TRN.AIRP03390-02
 CONTRACT NO : N/A
 DRAFTING BY : KLL
 DESIGN BY : RG
 CHECKED BY : RG

**ELECTRICAL DETAILS
 SHEET 6 OF 6**

SHEET ID
EDE6

50 mm

ISSUED FOR TENDER